

Software Engineering-I

CS504

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CS504 FOR FINAL TERM MCQs and Questions File

(Important Topics Are Below)

Question #1

It ensures that a class only has one instance and provides a global point of access to it.

Singleton pattern (page # 145)

Observer pattern

Real pattern

Question # 2

Static structural model shows the major system.....

Leaks

Components (page # 129)

Activities

Objectives

Question # 3

Complex Expressions

Make the code easy to modify

Make the code difficult to modify (page # 167)

Make the code easy to understand

Does not effect understandability

Question # 4

N-tier architecture stems from the struggle to find a ----- between the fat-client architecture and thin-client architecture.

Concurrency

Distribution point

Middle ground (page # 134)

Similarity

Question # 5

MVC stands for:

Model View Controller (page # 143)

Modern View Centre

Model View Centre

Modern View Controller

Question # 6

Class Variables should never be declared public. Public variables violate which of the following:

Information Hiding

Encapsulation

Information Hiding & Encapsulation (page # 161)

None

Question # 7 of 10:

----- provides a unified interface to a set of interfaces in a sub-system.

Observer Pattern

Singleton Pattern

Façade Pattern (page # 146)

All of the above

Question # 8

"Description of communicating objects and classes that are customized to solve a general design problem in a particular context." is called -----

Design pattern (page # 140)

System pattern

System Design

None

Question # 9

In the N-tier architecture, the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

Usability

Performance (page # 134)

Interoperability

None

Question #10

In case of a file servers, client requests selected records from a and the server transmits records to client over the network.

Local memory

Network

Database

File (page #132)

Question No #11

Alpha testing is:

- Testing individual components independent of other components
- Testing a collection of dependent components
- Validation against user expectations
- **Acceptance testing for customized projects, in-house testing for products(page#201)**

Question No #12

Code should not be:

- **Commented (page # 130)**
- indented
- cryptic
- aligned

Question No #13

When an error is thrown the overall system (on the lookout for this error flag) responds by ___ the error.

- Ignoring
- Casting
- **Catching (page 187)**
- All of the given

Question No # 14.

The complexity of a program may ___ if there are exceptional paths in it.

- Decrease
- **Increase (page187)**
- Remain the same
- All of given options

Question NO #15

Which of the following is used for multi-level commenting?

- // Comment
- **/*Comment*/ (page 165)**
- (Comment)
- */Comment/*

Question No 16

Testing of collection of modules to discover interfacing problems among interacting modules is called

- Unit testing
- Module testing
- **Subsystem testing (page 201)**
- None

Question N# 17

Which of the following shows a commented statement in C++

- # Ans = first + second
- **// Ans = first +second**
- \\ Ans = first + second

Confirm

- /# Ans = first + second

Question No # 18

STL stands for ____

Standard Template Library

Standard Type Link

Standard Tempo Line

None

Question NO #19

There are ____ layers in OSI reference model.

- 5
- 6
- **7** (PAGE 137)
- 8

Question NO# 20

Floating point constants should always be written with decimal point and at least

- **one decimal (page 164)**
- two decimal
- three decimal
- none

Question No # 21

In case of using unrelated operators in a single expression, ____ would be best choice to prevent the logical errors.

- Comments
- Indents
- **Parenthesis** (PAGE 166)
- Short cuts

Question NO # 22

Physical view in Krutchen's 4+1 architectural view model captures ____

Object model of the design

Concurrency and synchronization aspects of the design

Mapping(s) of the software onto the hardware and reflects its distributed aspect(page 125)

Static organization of the software in its development environment

Question No # 23

Which of the following is/are among ten things, which the basic template of GOF design pattern includes.

- Problem
- Context
- Forces
- **All of the given (page 141)**

Question No # 24

Data-Centered Architectural Style is also called ____

- Repository model
- Client Server model
- **Sub system model** **NOT SURE**
- Reference model

Question No # 25

Charles Simonyi first discussed Hungarian Notation. He was of

- **Microsoft (page 152)**
- IBM
- Dell
- Cisco

Question No# 26

"is" prefix should be used for----- variables and methods. Select correct option:

- General
- **Boolean (page 155)**
- Constant
- None of the given

Question No 27

In order to make a code more portable, Instead of using vendor specific language extensions, use _____ as much as possible

- **STL (page 182)**
- ANSI
- ISO
- CMMI

Question No 28

This code uses the % operator to set the rear pointer to 0 once it has reached

- Min-Size
- **Max-Size (Page 169)**
- Both
- None

Question No 29:

Vertical partitioning is also known as

- Balancing
- Mutating
- Parallelizing
- **Factoring**

Question No 30:

It ensures that a class only has one instance and provides a global point of access to it.

- **Singleton Pattern**
- Observer Pattern
- Real Pattern
- None of the given above

Question No 31:

Fat Client Model is one of the configurations of _____ Model.

- Data-centered
- Layered
- Reference
- **ClientServer**

Question No32:

tier architecture stems from the struggle to find a _____ between the fat-client architecture and the thin-client architecture.

- Concurrency
- Distribution point
- **Middle ground**

Similarity

Question No 32:

which of these represents the Krutchen's 4+1 architectural view model?

- **Logical view, Process view, Physical view, Development view, Use case view**
- Logical view, Dynamic view, Physical view, Development view, User case view
- Logical view, Process view, Physical view, Development view, Sequence view
- Dynamic view, Process view, Physical view, Development view, Use case view

Question No 33:

Thin Client Model is one of the configuration of _____ Model a. Data-centered

- **Client Server**
- Layered

- Reference

Question No 34:

In the N-Tire Architecture the idea is to enhance scalability and _____ by distributing both the data and the application using multiple server machines.

- Usability
- Performance
- Interoperability
- Integrity

Question No 35:

Floating point constants should always be written with decimal point and at least

- One decimal
- Two decimal
- Three decimal
- None of the given

Question No 36:

N-tier architecture stems from the struggle to find a _____ between the fat-client architecture and the thin-client architecture.

- Concurrency
- Distribution point
- Middleground
- Similarity

Question No 37:

Vertical participation divides the architecture application from a making perspective.

- Decision
- Design
- Conclusion
- Move

Question No 38:

Issues like system performance, availability, scalability, and security are analyzed in

_____.

- Logical view
- Physical view
- Code view
- Concurrency view

Question No 39:

Class variables should never be declared public. Public variable violate which of the following:

- Information hiding
- Encapsulation
- Information hiding and encapsulation
- None of the given

Question No 40:

Variable should be initialized where they are _____ and they should be declared in the _____ scope possible.

- Defined and smallest
- Declared and medium
- Defined and medium
- Declared and smallest

Question No 41:

Patterns are devices that allows program to share knowledge about their _____.

- Code
- Design
- Analysis
- Implementation

Question No 42:

Identifier names also play a significant role in enhancing the _____ of the program.

Write ability

Read ability

Reliability

All of the given choices

Question No 43:

Go-to statements violates the idea of a. Object oriented code

Structured code

Control structure

Repetition structure

Question No 44:

“Is” prefix should be used for _____ variables and methods.

- General
- Boolean
- Constant
- None of the given

Question No 45:

development view in Krutchen’s 4+1 architectural view model captures.

- object model of design
- concurrency and synchronization aspects of the design
- Mapping(s) of the software onto the hardware and reflects its distributed aspect
- Static organization of the software in its development

Question No 46:

A self-documenting code is a code that explain its self without the need of comments
extraneous documentation like

- flow chart
- UML diagrams
- process flow state diagram
- All of these

Question No 47:
using proper parenthesis normally makes the code

- easy to read
- easy to understand
- less ambiguous
- all of the given options

Question No 48:
_____ was the first pure Object Oriented language in which observe pattern was used in implementing its model view controller pattern

- Smalltalk
- PASCAL
- JAVA
- C++

Question No 49:
the form for (;;) should be used for a. nested loop

- empty loop
- more than 1000 iteration
- less than 100 iteration
- None of these

Question No 50:
Static structural model shows the major systems

- Leaks
- Components
- Activities
- Objectives

Question No 51:
Global variables in C++ should always be referred to by using the

- ::operator
- operator
- Without an operator
- None of the given

Question No 52:
_____ architecture model is widely used in mainframe application.

- Client-server Model
- Repository
- Filter Model
- Layered Model

Question No 53:

The responsibilities of different subsystems so that we get a software system which is easy to maintain, is calledthe architecture.

- Subtracting
- Partitioning
- Cloning
- Balancing

Question No 54:

C++ header files should have the extension---- Source files can have the extension --

- .c and .h
- .cc and .h
- .h and .cpp
- . All of the given

Question No 55:

- Names representing methods and functions should be----and written in mixed case starting----case.
- Noun----lower
- Verb----lower
- Noun----upper
- Verb----upper

Question No 56:

Maintain ability and portability issues are discussed in _____.

- Functional view
- Physical view
- Code view
- Logical view

Question No 57:

Which of the following is used for multi-level commenting? a. //Comment

- /*Comment*/
- (Comment)
- *(Comment)*
- None of these

Question No 58:

In case of a file servers, Client requests selected records from a _____ and the server transmits records to client over the network.

- Local memory
- Network
- Database
- **File**

Question No 59:

In case of header file construction is to avoid _____ error. The construction should appear in the top of the file (before the file header).

- **compilation**
- run time
- logical
- all of the given

Question No 60:

Charles Simonyi first discussed Hungarian notation. He was of _____

- **Microsoft**
- IBM
- Dell
- Cisco

Question No 61:

Which one is correct?

- **double total=0.5;**
- double total =5:
- double total =50:
- all of the given

Question No 62:

In client server model the application is modeled as a set of _____ that are provided by

- servers. Requests
- protocol
- **services**
- Requirements

Question No 63:

_____ architectural model is widely is used in mainframe applications.

- **client-server model**
- Repository model
- filter model
- layered model

Question No 64:

client server is a ____ system model a. integrated

- **distributed**
- heterogeneous
- Homogeneous
- None of these

Question No 65:

the form for (;;) should be used for a. nested loop

- **empty loop**
- more than 1000 iteration
- less than 100 iteration

Question No 66:

Client Server model tries to data and processing

Distribute

Merge

Clone

Proceed

Question No 67:

Anti- Patterns is another concept that corresponds to common in analysis and design.

Mistake

Issues

Problems

All of the given

Question No 68:

vertical partitioning is also known as

- Balancing
- Mutating
- Parallelizing
- **Factoring**

Question No 69

This client Model is one of the configuration of _____ Model. (page 133)

- **Client Server**
- Thin Client
- Fat Client
- None of these

Question No 70

block of error-sensitive code with exception handling is called

- **Trying to execute a block**

Question No 71

Which function throw for several reasons but all that matters for this function is whether

- **Title ()**

Question No 72

Writing test cases and generating test data are processes that demand _____ building

- capabilities.
- Code
- Domain
- System
- **Scenario**

Question No 73

What types of errors are missed by black-box testing and can be uncovered by whitebox testing?

- ❖ Runtime errors
- ❖ **Logic errors**
- ❖ Performance errors
- ❖ Input errors

Question No 74

The cyclomatic complexity metric provides the designer with information regarding the number of _____.

- Statements in the program
- Cycles in the program
- Errors in the program
- **Independent logic paths in the program**

Question No 74

The best reason for using Independent software test teams is that

- **Software developers do not need to do any testing**
- Strangers will test the software mercilessly
- Testers do not get involved with the project until testing begins
- The conflicts of interest between developers and testers is reduced

Question No 75

_____ is intended to define a many to many relationship between objects so that when

- one object changes state all its dependents are notified and updated automatically.
- **Observer Pattern**
- Facade Pattern
- Singleton Pattern
- Joint Pattern

Question No 76

_____ ensures that a class only has one instance and provides a global point of access to it.

- Behavioral Pattern
- Joint Pattern
- **Singleton Pattern (PAGE 145)**
- Observer Pattern

Question No 77

Inspections cannot check _____ characteristics.

- **Non-Functional (Page 213)**
- Business
- User

Question No 78

Secondary private classes can be declared as _____ and reside in the file of the class

- Asynchronous Classes
- **Inner classes (PAGE158)**
- Outer classes
- Synchronous classes

Question No 78

The construction should appear at the _____ of the header file.

- **Top (PAGE 160)**
- Bottom
- Left
- Right

Question No 79

In the switch statement, cases should always end with _____.

- Return
- Semi colon
- **Break (Page 170)**
- Full stop

Question No 80

Modularity is a tool that can help us in _____ the size of individual functions.

- Stabilizing
- **Reducing (PAGE 173)**
- Increasing
- Strengthening

Question No 81

Abstraction and encapsulation are two important tools that can help in managing and mastering the _____ of a program.

- Usability
- **Complexity (Page173)**
- Understandability
- Reliability

Question No 82

One of the guidelines to avoid common mistakes is to never use _____ except for declaration.

- **, (PAGE 179)**
- ;
- =
- ||

Question No 83

Which of the following is/are NOT one of the umbrella activities?

- Requirement analysis
- Architecture design
- Test case development
- **All of the given options (Page 14)**

- Project Planning and Management
- Configuration Management
- Software Quality Assurance
- Installation and Training

These are Umbrella Activities

Question No 84

In a, each program module is represented by a rectangular box.

- **Use case diagram (GOOGLE)**
- Class diagram
- Document flow diagram
- Data flow diagram

Question No 85

..... is a diagramming technique used to identify the types of objects in the system and the static relationships that exist among them.

- **Class Diagram (GOOGLE)**
- Document flow diagrams
- Data flow diagrams
- Flow charts

Question No 86

Which one is NOT a type of messages which Sequence Diagrams Depict _____

- Asynchronous
- Synchronous
- Create
- **Update (Page 111)**

Question No 87

Identifying Whole-Part structures (Aggregations) means, what are my -----

- **Components (PAGE 98)**
- Structures
- Modules
- Interaction Protocols

Question No 88

The design process for identifying the sub-systems making up a system and the framework for sub-system control and communication is:

- **Architectural Design (PAGE 118)**
- Interface Design
- Component Design
- Data Design

Question No 89

A complex System evolves from a

- Smaller system
- **Simpler system (GOOG)**
- Bigger system
- Medium system

Question No 90

A context diagram _____

- Describes the context dependencies of a system
- **Is a DFD which gives an overview of the system (Conceptual)**
- Is a detailed description of a system
- Is not used in drawing a detailed DFD

Question No 91

When measure of independence of a module or component is low to the other, How would changes in one component have effect on other component?

- No
- Low
- **High (Conceptual)**
- Equal

Question No 92

What is meant by the term 'software crisis'?

- Ability to deliver software on time with good quality
- A situation in which experienced developers leave the company
- **Inability of new software to inter-operate with existing software (Conceptual)**
- A situation in which large scale software projects took more time and budget than was planned

Question No 93

Which is not included in test criteria applied in a phase of testing?

- Functional validity
- Interface integrity
- Correctness
- **Programming Logic (GOOGLE)**

Question No 94

For inspections, ----- are prepared that contain information regarding defects.

- Tables
- **Checklists (PAGE 213)**
- Lists
- Frames

Question No 95

Static analyzers are software tools for ----- processing.

- Analysis text
- **Source text (PAGE 214)**
- Design text
- Maintenance Text

Question No 96

Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

- ❖ Target
- ❖ Reason
- ❖ **Disease (Page 227)**

- ❖ Source

Question No 97

What factor has no precipitation in more sophisticated and complex computer-based systems?

- ❖ **Vast use of personal computers. (COCEPTUAL)**
- ❖ Vast increases in computer memory and storage capacity.
- ❖ Greater variety of exotic input/output options.
- ❖ Profound changes in computer architectures.

Question No 98

Software Bugs have multiple names. Which one of the below is not the name of Software Bugs?

- ❖ Bugs
- ❖ Defects
- ❖ Errors
- ❖ **Mistakes (Page 216)**

Question No 99

Unit testing is roughly equivalent to _____ testing for hardware in which each chip is tested thoroughly after manufacturing.

- Circuit level
- **Chip Level (Page 210)**
- Component level
- System level

Question 100

Equivalence _____ help you in designing test cases to test the system effectively and efficiently.

- Functions
- **Classes (PAGE 202)**
- Objects
- Interfaces

Question No 101

_____ are used to describe flow of data or control in an application.

- Code structures
- String matching.
- Paths
- **Flow graphs (Page 203)**

Question No 102

Writing test cases and generating test data are processes that demand _____ building capabilities.

- Domain
- System
- **Scenario (PAGE 198)**
- Code

Question No 103

The raising of the imaginary error flag is simply called raising or _____ an error.

- **Throwing (Page 187)**
- Sending

- Casting
- Handling

Question No 104

_____ requirements are often called product features.

- Functional
- **Business**
- User
- Non-functional

Question No 105

Many compilers limit the maximum number of bits in the bit field to the size of a(n)

_____.

- **Integer (PAGE186)**
- Float
- Character
- Double

Question No 106

In Java, ">>" is used for _____ shift and ">>>" for _____ shift.

- **Arithmetic, Logical (PAGE 184)**
- Mathematical, Logical
- Incremental, Arithmetic
- Logical, Arithmetic

Question No 107

When large amount of data is to be shared, repository model is used. This model has been extensively used in the _____ based application.

- **Mainframe (PAGE 130)**
- Super Computers
- Personal Computers
- Real time

Question No 108

There are four basic coding structures: sequence, if statement, case statement, and

_____.

- For loop
- **While loop (PAGE 203)**
- Switch statement
- Logical operations

Question No 109

_____ is only a reference for defining protocols and designing and implementing systems developed by different parties.

- OSI model
- **Reference architecture (PAGE 137)**
- Layered architecture
- N-tier architecture

Question No 110

The pattern movement became very quiet until _____ when patterns appeared again at OOPSLA conference.

- **1987 (PAGE 141)**
- 1988
- 1962

➤ 1995

Question No 111

Testing activities require destructive instincts in _____ for the purpose of breaking system to discover loopholes into its functionality.

- Bug Fixers
- **Tester (PAGE 198)**
- Developer
- Requirement Engineer

Question No 112

Camel Case is now the official convention for file names and identifiers in the _____ programming language.

- C#
- C++
- **Java (PAGE 152)**
- Visual Basic.Net

Question No 113

In presence of _____ bug in a program, the results are the opposite of what is expected.

- Memory Leak
- Memory Over-runs
- Syntax Error
- **Logical Error (Page 221)**

Question No 114

Split lines occur when a statement exceed the _____ column limit.

- **80 (158)**
- 90
- 95
- 85

Question No 115

Identifier names play a significant role in enhancing the _____ of a program.

- Writ ability
- **Readability (PAGE 151)**
- Reliability
- Usability

Question No 116

Comments should be indented relative to their position in the _____.

- **Code (PAGE 165)**
- Design
- Analysis
- Requirements

Question No 117

When planning for performance, one should always remember the _____ rule.

- **80/20 (PAGE 180)**
- 70/20
- 60/20
- 100/20

Question No 118

Which of the items listed below is NOT one of the software engineering layers?

- Tools
- Process
- **Manufacturing**
- Methods

Question No 119

Which of the following is a non-functional requirement of a website which sells songs?

- A catalogue of the stock needs to be available for the users to choose from
- Customer information should be retained to allow future transactions easier
- Users should be able to choose from a set of different languages for the interface
- **Time taken to download songs in the catalogue should not irritate users**

(CONCEPTUAL)

Question No 120

The state transition diagram _____

- Depicts relationships between data objects
- Depicts functions that transform the data flow
- **Indicates how data are transformed by the system (CONCEPTUAL)**
- Indicates system reactions to external events

Question No 121

The order in which bytes of one word are stored is _____ dependent.

hardware (PAGE 184)

software

language

syntax

Question No 122

Exception handling is a powerful technique that separates error-handling code from _____ code.

Normal (PAGE 187)

Faulty

Buggy

Complex

Question No 123

Bit fields are a convenient way to express many difficult operations. However, bit fields suffer from one problem

Lack of usability

Lack of security

Lack of performance

Lack of portability (PAGE 186)

Question No 124

The complexity of a program may _____ if there are exceptional paths in it.

Decrease

Increase (PAGE 188)

Remain same

All of given options

Question No 125

When an error is thrown the overall system (on the lookout for this error flag) responds by _____ the error.

Ignoring
Casting

Catching (PAGE 187)

All of the given options

Question No 126

Comments are not syntax checked

TRUE (PAGE 165)

FALSE

Question No 127

Modularity is a tool that can help us in increasing the size of individual functions, making them less readable.

True

False (PAGE 173)

Question No 128

Three tier architecture contains layers

Presentation

Application

Database

All of the above

Question No 129

Vertical partitioning divides the architecture application from a making perspective.

Decision (Page 138)

Design

Conclusion

Move

Question No 130

Modules with high cohesion and low coupling can be treated and analysed as

White boxes

black boxes (PAGE 75)

grey boxes

none of these

Question No 131

While establishing the services for an object, the following fundamental questions should be asked:

- Why does the system need this object anyway?
- **What useful questions can it answer?**
- What useful action can it perform?

- All of the given options.

Question No 132

-----is a role that each actor plays in the system under consideration.

- An act
- A participant (PAGE 96)
- A function
- None of the given

Question NO 133

Any Engineering approach must be founded on organizational commitment to -----.

- Cost
- Scheduling
- Quality Page 115
- Performance

Question No 134

Return values in synchronous messages are:

- Compulsory
- May not used when response is obvious
- Not used at all
- Represented by solid lines

Question No 135

According to Caper Jhones analysis of project activities, coding only has ----- affect part in system development.

- 13-14%
- 36-40%
- 50-60%
- 70-80%

Question No 136

If you are initializing a variable at the time of declaration, do not declare another _____ in the same statement.

- Variable 179 (correct)
- Object
- Class

- Module

Question No 137

A change becomes ----- because of close presence of data and functions

- Localized Google
- Private
- Global
- Accessible

Question No 38

Following are some statements associated with data flow diagrams. Identify the correct statement from among them.

- DFDs are used to model complex interfaces.
- DFDs are used to represent only functional processing, data stores and data movements between functions.
- DFDs depict only processes which can be decomposed.
- DFDs do not show external data sources and external data sinks.

Question No 39

A project is considered successful if:

- The system was delivered in time and within budget.
- The system meets at least some of the customer's requirements.
- The system development process has a maximum impact on the ongoing business process.
- Minimum time was spent for requirement gathering and designing.

Question No 40

A process which does not take input is called _____

- Miracle process
- Core process
- Secondary process
- Zombie process

Question No 41

Krutchen's 4+1 architectural view model proposes the development of _____ main views

- 5
- 4
- 3
- 2

Question No 142

_____ are used to describe flow of data or control in an application.

- Code structures
- String matchings
- Paths
- Flow graphs (PAGE 203)

Question No 143

A memory leak bug is one in which memory is somehow allocated from either the operating system or an ----- "pool", but never deallocated when the memory is finished being used

- Mixed memory
- External memory
- Internal Memory Page 219
- Mutually exclusive memory

Question No 144

Testing is an intellectually demanding activity and has a lifecycle ----- to software development.

- Equal
- Parallel (PAGE 198)
- Sequential
- In contrast

Question No 145

Software deteriorates rather than wears out because

- Software suffers from exposure to hostile environments
- Defects are more likely to arise after software has been used often
- Multiple change requests introduce errors in component interactions
- Software spare parts become harder to order

Question No 146

Inspections can check conformance with a specification but not conformance with the --- -----
-requirements.

- Customer's real PAGE 213
- Developer
- Tester
- Manger

Question No 147

Which is not included in test criteria applied in a phase of testing?

- Functional validity
- Interface integrity
- Correctness
- Programming Logic

Question No 148

For equivalence partitions, we divide the problem in ----- obvious categories of equal strings

- 4
- 3
- 2 PAGE 202
- 5

Question No 149

Which of the following is not a fundamental structured programming construct?

- Recursion
- Condition
- Repetition
- Sequence

Question No 150

Control flow diagrams are:

- Needed to model event driven systems
- Required for all systems
- Used in place of data flow diagrams

- Useful for modeling user interfaces

Question No 151

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- least difficult
- **most difficult (Page 229)**
- very easy
- easy

Question No 152

The goal of testing is to expose ----- defects in a software system before it is put to use.

- **Latent (Page 196)**
- already present
- current
- runtime

Question No 153

----- is a powerful technique that separates error-handling code from normal code.

- **Exception handling (Page 187)**
- Code handling
- variable handling
- pointer handling

Question No 154

The construction is used to avoid ----- errors.

- **compilation (Page 160)**
- runtime
- design time
- none of them

Question No 155

All comments should be written in

- **English (Page 165)**
- French
- C++
- JAVA

Question No 156

Verification and validation are the processes in which we check a product against its ----- and the ---- ----- of the users who will be using it.

- **specifications, expectations (Page 195)**
- statements, expectations
- specifications , arguments
- statements, arguments

Question No 157

Two tests are considered to be equivalent if it is believed that: if one discovers a defect, the other probably will too, and if one does not discover a defect, -----.

- the other probably may
- non of them
- **the other probably won't either (Page 202)**
- the other probably will

Question No 158

It was lady named ----- who actually coin the term "bug" for the fiest tim

- Elisay Christopher
- **Admiral Grace Hopper (Page 216)**
- Ana Nicholson
- Jane Hopper

Question No 159

The first "bug" was actually a moth, which flew through an open window and into one of the Mark ----- 's relays.

- **II (Page 216)**
- I
- III
- IV

Question No 160

Software architecture elements are further divided into categories which in total are -----

- 2
- **3 (Page 122)**
- 4
- 5

Quiz Fall 2021

1. White box testing is performed to test the _____ of the program a. Logic

b. Structure page 198

- c. Flow
 - d. Syntax
2. Some bit field members are stored:
 - i. left to right
 - ii. right to left
 - iii. in circular array
 - b. only (1) is true
 - c. Only (II) is true
 - d. Only (III) is true

e. Both (I) and (II) are true page 183

3. In order to write a portable code which of the following guideline will not be helpful:

- a. Stick to the standards
 - b. Program in the mainstream
 - c. Size of data types
 - d. Using vendor specific language extensions** **page 179**
4. _____ is qualitative benefit of Unit Testing
- a. Confidence building** **page 207**
 - b. Repeatability
 - c. Bounded code
 - d. Cost effectiveness
5. In order to make a code more portable. Instead of using vendor specific language extensions, use _____ as much as possible
- a. STL** **page 179**
 - b. ANSI
 - c. ISO
 - d. CMM
6. In system development life cycle, defects cannot enter into the program during _____ phase.
- a. Requirement
 - b. Design
 - c. Coding
 - d. Implementation** **page 209**
7. `str = 0; // str is string`

Which rewritten form of above line of code is more in line with the self-documentation philosophy than the code above.

a. str = false;

b. str = NULL;

page 169

c. str = \0':

d. str = 0.0:

8. _____ and _____ are important short circuiting logical operators.

a. AND b. OR c. NOTd. NOR

a. a & b pae 173

b. b&c

c. c&d

d. a & c.

9. _____ testing isolates every part of the program and shows that the individual parts are correct.

a. White Box

b. Black Box

c. Unit google

d. System

10. _____ is not a white box testing technique.

a. Statement Coverage

b. Branch Coverage

c. Path Coverage

d. State Transition Coverage

page 202

11. Chip level testing for hardware is equivalent to _____

a. White Box

b. Black Box

c. Unit testing page 207

d. System testing

12. For equivalence partitions, we divide the problem in _____ obvious categories.

a. Two page 199

b. Four

c. Five

d. Six

13. `x = 0; // x is floating pt`

Which rewritten form of above line of code is more in line with the self-documentation philosophy than the code above?

a. `x = false`

b. `x = NULL`

c. `X = 0.0;` page 169

d. `x = '0'`

14. One of the main reasons to make functions is _____ -

a. Reliability

b. Reusability page 171

c. Maintainability

d. Efficiency

15. 80/20 rule states that:

a. you spend 80 percent of your time in 20 percent of the code page 177

- b. you spend 20 percent of your time in 80 percent of the code
 - c. We should try to optimized 80 percent or at least 20 percent of the code
 - d. We should try to optimized 20 percent or at least 80 percent of the code
16. _____ identifies which statements in a method or class have been executed.
- a. Method Coverage
 - b. Statement Coverage**
 - c. Class Coverage
 - d. Branch Coverage
17. In _____ system's internal implementation details are not visible to the tester.
- a. White Box Testing
 - b. Gray Box Testing
 - c. Black Box Testing** **page 198**
 - d. Both White Box Testing & Gray Box Testing
18. Verification and validation are the processes in which we check a product against its _____ and the _____ of the users who will be using it
- a. statements, expectations
 - b. specifications, expectations** **page 192**
 - c. specifications arguments
 - d. statements, arguments
19. Objective of _____ is to show that the program does not work
- a. Requirements
 - b. Design

c. coding

d. testing **page 196**

20. The formula for calculating the Cyclomatic Complexity of a program is:

a. $E - N + 2$ **page 208**

b. $E + N + 2$

c. $E - N - 2$

d. $N - E + 2$

21. The raising of the imaginary error flag is simply called raising or ____ an error

a. Catching

b. Casting

c. Throwing **page 184**

d. Repress

22. Be very careful when you use functions with side effects - functions that change the values of the _____

a. Objects

b. Classes

c. Structures

d. Variables

Be very careful when you use functions with side effects – functions that change the values of the parameters. Page 176

23. The number _____ is the most abused symbol in programs written in C or

C++.

a. 1

b. 0 page 169

c. 2

d. 3

24. _____ is a creative activity while _____ is a destructive activity

a. Development, Testing page 196

b. Testing, Development

c. Validation, Verification

d. Verification, Validation

25. Which one is used to describe flow of data or control in an application

a. Class diagram

b. Use case diagram

c. Flow Chart page 200

d. Code

26. Testing individual components independent of other components is called:

a. Unit testing page 189

b. Module testing

c. Subsystem testing

d. System testing

27. The expressions with logical operators can be evaluated only from _____

a. Right to left

b. Left to right page 173

c. Top to bottom

d. Bottom to top

28. The complexity of a program may _____ if there are exceptional paths in it

a. Decrease

b. Increase **page 185**

c. Remain same

d. Cutback

29. In the switch statement, cases should always end with a _____ statement.

a. Switch

b. Go

c. Break **page 167**

d. Stop

30. Cyclomatic complexity measures the logical complexity_____

a. Quantitatively **page 205**

b. Qualitatively

c. Creditably

d. Worthily

31. The size of _____ plays a significant role in making the program

easy or difficult to understand

a. Function **page 170**

b. object

c. data type

d. none of the above

32. _____ depicts programming instructions that do not have branching

or any control information

a. Sequence page 200

- b. IF
- c. While
- d. Case

33. for (i =0, col = 0; i < 27; i++.j++)

In the above line of the code 27 is representing _____.

- a. Real Numbers

b. Magic Numbers page 167

- c. Constant Numbers
- d. Positive Numbers

34. The process that involves verification of product with respect to its written requirements is called _____

- a. Maintenance
- b. Debugging
- c. Development

d. Testing page 192

35. If an application fulfills its specifications but deviates from users expectations or their desired behavior. This means, software is verified but not -----

a. Validated page 192

- b. Corrected
- c. Checked
- d. Traced

36. A _____ variance from a desired product attribute.

- a. Exception
- b. Error
- c. Mistake

d. Defect page 192

37. If a function changes the value of some other accessible data object along with returning its value after execution is called _____

- a. Short Circuiting
- b. Modularity

c. Side Effects page 174

d. Abstraction

38. if (e.Title() == "CEO" || e.Salary() > 10000)

in the above statement if (e.Title()=="CEO") is TRUE then

a. Second part is not evaluated page 185

- b. Second part is always evaluated
- c. Second part must also be TRUE
- d. Second part is not evaluated but e.Salary ()is called

39. When an error is thrown the overall system (on the lookout for this error flag) responds by ____the error

- a. Ignoring
- b. Casting

c. Catching page 184

d. Pass over

40. Testing of collection of modules to discover interfacing problems among interacting modules is called

- a. Unit testing
- b. Module testing

c. Subsystem testing **page 198**

d. System testing

41. Constant values used in the program are called a. Real Numbers

b. Magic Numbers **page 168**

- c. Constant Numbers
- d. Positive Numbers

42. Bit fields are a convenient way to express many difficult operations. However, bit fields suffer from one problem

- a. Lack of usability
- b. Lack of security
- c. Lack of performance

d. Lack of portability **page 183**

43. Comma (,) is very dangerous because _____

- a. Compiler does not recognize this symbol
- b. It creates linkage problem

c. It causes side effects **page 176**

d. It does not causes side effects

44. Function testing falls under _____ testing technique

- a. White Box
- b. Black Box

c. Unit page 207

d. System

45. The greatest advantage of exception handling is its ability to handle:

a. Asynchronous errors page 184

- b. Syntax errors
- c. Memory errors
- d. Control Structure errors

46. After integrating subsystems into a system, and then testing this system as a whole is called

- a. Unit testing
- b. Component testing
- c. Subsystem testing

d. System

testing 47.

struct

packed_struct

{

unsigned int f1:1;

} pack;

Here in "packed_struct":

a. value of f1 = 1

b. size of f1 = 1 bit

page 183

c. value of f1 should not exceed 1

d. None of given options

48. The C/C++ language has not specified whether _____ is arithmetic or logical.

a. Right shift >> page 181

b. Right shift <<

c. &&

d. ||

49. A _____ is a variance from a desired product attribute

a. Exception

b. Error

c. Mistake

d. Defect page 192

50. There are _____ basic coding structures.

a. One

b. Two

c. Three

d. Four page 200

51. In _____ control can take either of several branches.

a. IF

b. While

c. Case statement page 201

d. Sequence

52. _____ cause major portability issues

- a. Loops
- b. Bugs in code

c. Sizes of data types **page 179**

d. Conditional Structures

53. A good program must contain _____ infeasible paths.

a. 0 **page 206**

- b. 1
- c. N
- d. Infinite

54. We do not use flow graphs to _____.

a. Show flow of data

b. Describe decisions **page 200**

- c. Show Control in an application
- d. Describe different coding structures

55. The order in which bytes of one word are stored is _____ dependent

a. Hardware **page 181**

- b. software
- c. language
- d. syntax

56. _____ is the starting point, base document for both testing and the development

- a. Software code
- b. Test case document
- c. Software architecture document

d. Functional specification document page196

57. if a major rework is required to translate a program written for one environment to another, it means code is not or less _____

- a. Secure
- b. Bug Free
- c. platform dependent

d. Portable page 179

58. Which of the following is the correct path for the code:

If(a%b==0) 1

C=a+b; 2

Cout<<c; 3

- a. 1-2-3-1
- b. 1-3-2
- c. 1-2-3**
- d. 2-3-1

59. Switch statement is equal to _____ statement.

- a. if
- b. if-else
- c. nested if

d. if-else if page 167

60. Exception handling provides

- a. Portability mechanism
- b. Code Usability mechanism

c. Error Handling mechanism page 184

d. Both Portability & Code Usability mechanism 61.

Unit Testing will be done by

- a. Testers
- b. End Users
- c. Customer

d. Developers page 207

62. Identify the TRUE statement

- a. Portability effects security

b. Size of data types vary from one machine to other page 179

- c. Size of control structures vary from one machine to other
- d. To write portable code, use vendor specific language extensions as much as possible

63. Which type of testing is not concerned with how the inputs are transformed into outputs?

- a. White Box
- b. Gray Box

c. Black Box page 198

- d. Both White Box & Gray Box

64. Consider the following statement: `int a,b=10;`

Which of the following is correct: a.
variable "a" is initialized to 10

b. Variable "b" is initialized to 10

- c. Both variables "a" and "b" are initialized to 10
- d. variables can not be initialized this way

65. Software _____ is the process of examining the software product against its requirements.

a. Testing page 192

- b. Debugging
- c. Exception handling
- d. Fixing

66. The idea behind exception handling is to raise some error flag every time

- a. The code compiles
- b. The code links
- c. Memory is allocated

d. Something goes wrong page 184

67. Bit fields allow the packing of data in a structure, using Bit fields we can:

a. Read 9 bit integers page 182

- b. Avoid memory leakages
- c. Avoid memory overflow
- d. Avoid syntax errors

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68. _____ is a tool that can help us in reducing the size of individual functions.

a. Inheritance

b. Modularity page 170

c. Association

d. Abstraction

69. _____ and _____ are two important tools that helps in managing the program complexity

a. Composition, Inheritance

b. Abstraction, Encapsulation page 170

c. Aggregation, Inheritance

d. Modularity, Composition

70. A path through a program which is never traversed for any input data is called

a. Dependent path

b. Independent path

c. Infeasible path page 206

d. Feasible path

71. When a small set of functions (which use each other) is so overwhelmingly the bottleneck, there are two alternatives:

a. use a better algorithm OR re-write the code page 177

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- b. debug the code OR place assertions in code
- c. remove the functions OR add more functions
- d. changed programming language OR compiler at least

72. Alpha testing is:

- a. Testing individual components independent of other components
- b. Testing a collection of dependent components
- c. Validation against user expectations

d. Acceptance testing for customized projects, in-house testing for

products

page 198

73. Exception handling is a powerful technique that separates error-handling code

from _____ code.

a. Normal **page 184**

- b. Faulty
- c. Buggy
- d. Complex

Questions

1. Which Four Technique should be applied in parallel to attain maximum defect removal efficiency?

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Defect origination

In inspections the emphasis is on early detection and fixing of defects from the program. Following are the points in a development life cycle where defects enter into the program.

- Requirements
- Design
- Coding
- User documentation

2. What do you understand by term “SELF-Documenting Code”?

In web development, **self-documenting** refers to a website that exposes the entire process of its creation through public **documentation**, and whose public **documentation** is part of the development process.

3. Describe three Covering scheme related to white box testing.

Answer:

- Statement Coverage
- Branch Coverage
- Path Coverage

4. What are Inspection pre-Condition?

Pre-condition is a statement or set of statements that outline a **condition** that should be true when an action is called. The **precondition** statement indicates what must be true before the function is called.

5. Data model?

Data modeling is also an essential activity performed during the design phase. This includes the identification of data entities and their attributes, relationships among these entities, and the appropriate data structures for managing this data.

6. Layers?

Answer:

- **The subsystem layer.** Contains a representation of each of the subsystems that enable the software to achieve its customer’s defined requirements and to implement the technical infrastructure that supports customer requirements.
- **The class and object layer.** Contains the class hierarchies that enable the system to be created using generalization and increasingly more targeted specializations. The layer also contains design representations for each object.
- **The message layer.** Contains the details that enable each object to communicate with its collaborators. This layer establishes the external and internal interfaces for the system.

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- **The responsibility layer.** Contains the data structures and algorithmic design for all attributes and operations for each object.

7. Sequences diagram focuses on which two things?

The focus of sequence diagrams is on **objects (and classes)** and **message exchanges among them** to carry out the scenarios functionality. The objects are organized in a horizontal line and the events in a vertical time line.

8. How Encapsulation helpful in software engineering?

Hiding the internal details is called encapsulation.

- Encapsulation prevents clients from seeing its inside view.
- Encapsulation hides the details of the implementation of an object.
- Reduced effort in maintenance and enhancement, resulting from encapsulation.
- Intelligent encapsulation localizes design decisions that are likely to change.
- The ability to change the representation of an object without disturbing any of its clients is the essential benefit of encapsulation. Important tool
- that can help in managing and mastering the complexity of a program.

9. Types of Structures?

There are two types of structures: Generalization-Specialization (Gen-Spec) and whole-part.

10. Identify relationship between?

- | | |
|---------------------------------|-------------|
| ➤ Father and children | Inheritance |
| ➤ Ali and house | Association |
| ➤ Plants and garden | Association |
| ➤ Human being and parts of body | Composition |
| ➤ Folk music and music category | Aggregation |

11. Define actor and use case?

In a use case model, boundaries of the system are defined by functionality that is handled by the system. Each use case specifies a complete functionality from its initiation by an actor until it has performed the requested functionality. An actor is an entity that has an interest in interacting with the system. An actor can be a human or some other device or system.

12. Object data modeling?

Data modeling is also an essential activity performed during the design phase. This

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includes the identification of data entities and their attributes, relationships among these entities, and the appropriate data structures for managing this data.

13. Why is architecture important?

- **Mutual communication:** Software architecture represents a common high-level abstraction of the system that most, if not all, of the systems stakeholders can use as a basis for creating mutual understanding, forming consensus, and communicating with each other.
- **Early design decisions:** Software architecture represents the embodiment of the earliest set of design decisions about a system, and these early bindings carry weight far out of proportion to their individual gravity with respect to the system's remaining development, its service in deployment, and its maintenance life. It is also the earliest point at which the system to be built can be analyzed.
- **Reusable abstraction of a system:** Software architecture embodies a relatively small, intellectually graspable model for how the system is structured and how its components work together; this model is transferable across systems; in particular, it can be applied to other systems exhibiting similar requirements, and can promote large scale reuse.

14. Architectural design process names?

- **System structuring** - System structuring is concerned with decomposing the system into interacting sub-systems.
- **Control modeling** - Control modeling establishes a model of the control relationships between the different parts of the system.
- **Modular decomposition** - During this activity, the identified sub-systems are decomposed into modules.

15. Architectural Attributes

- **Performance** – Performance can be enhanced by localising operations to minimise subsystem communication. That is, try to have self-contained modules as much as possible so that inter-module communication is minimized.
- **Security** – Security can be improved by using a layered architecture with critical assets put in inner layers.
- **Safety** – Safety-critical components should be isolated
- **Availability** – Availability can be ensured by building redundancy in the system and having redundant components in the architecture.
- **Maintainability** – Maintainability is directly related with simplicity. Therefore, maintainability can be increased by using fine-grain, self-contained components.

16. Describe any 2 key points of software design that can be easily amended?

- Requirements design
- GUI design

17. Two examples of aggregation from daily life?

- ❖ Car and engine or wheels etc.

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- ❖ PC and keyboard

18. Software design while cost is limited, how to design efficient?

Before developing any software, proper feasibility report is generated while keeping in mind budget and Time limit. Accordingly, project estimations are presented to client. In this scenario, if desired application cannot be prepared in available budget, then obviously, one thing has to be compromised i.e., either budget or 100 percent of required project. So with low budget, some features may be skipped. We have two options:

- ❖ Compromise on efficiency of the software
- ❖ Compromise on the GUI

While we have to design efficient software so have to compromise on GUI. That's a balancing act.

19. Template types.

There are three types of Template.

- ❖ Function Template
- ❖ Class Template
- ❖ Variable Template

20. Write the step of Test Phasing.

- ❖ **Requirement Analysis.** Your valuable software testers have to view, study, and analyze the available specifications and requirements. ...
- ❖ **Test Planning.** ...
- ❖ **Test Case Designing and Development.** ...
- ❖ **Test Environment Setup.** ...
- ❖ **Test Execution.** ...
- ❖ **Test Closure.**

21. Define Cyclomatic complexity and formula.

Cyclomatic complexity is a software metric used to indicate the **complexity** of a program. It is a quantitative measure of the number of linearly independent paths through a program's source code. **Cyclomatic complexity** may also be applied to individual functions, modules, methods or classes within a program.

The complexity **M** is then defined

$$M = E - N + 2P,$$

22.

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In c#, properties can contain one or two code blocks called **accessors** and those are called a **get** accessor and **set** accessor.

23. Interface errors:

- **Interface misuse:** a calling component calls another component and makes an error in its use of its interface e.g. parameters in the wrong order.
- **Interface misunderstanding:** a calling component embeds assumptions about the behavior of the called component which are incorrect.
- **Timing errors:** the called and the calling component operate at different speeds and out-of-date information is accessed.

Types of UNIT test CASE

- The first of these should reflect **normal operation** of a program and should show that the component works as expected.
 - The other kind of test case should be based on testing experience of where common problems arise. It should use **abnormal inputs** to check that these are properly processed and do not crash the component.

25. Parts Of Automated test

It has three parts

- A **setup** part, where you initialize the system with the test case, namely the inputs and expected outputs.
- A **call** part, where you call the object or method to be tested.
- An **assertion** part where you compare the result of the call with the expected result. If the assertion evaluates to true, the test has been successful if false, then it has failed.

26. Why Code portability is so important? Give out 3 ways / Guide lines to improve the code portability with examples

Many applications need to be ported on to many different platforms. As we have seen, it is pretty hard to write error free, efficient, and maintainable software. So, if a major rework is required to port a program written for one environment to another, it will be probably not come at a low cost. So, we ought to find ways and means by which we can port applications to other platforms with minimum effort. The key to this lies in how we write our program. If we are careful during writing code, we can make it portable. On the other hand, if we write code without portability in mind, we may end-up with a code that is extremely hard to port to other environment.

Following is brief guideline that can help you in writing portable code.

- **Stick to the standard 1.** Use ANSI/ISO standard C++ 2. Instead of using vendor specific language extensions, use STL as much as possible
- **Program in the mainstream** Although C++ standard does not require function prototypes, one should always write them. `double sqrt();` // old style acceptable by ANSI C `double sqrt(double);` // ANSI – the right approach
- **Size of data types** Sizes of data types cause major portability issues as they vary from one machine to the other so one should be careful with them.

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```
int i, j, k; ... j = 20000; k =
30000; i = j + k; // works if int is
4 bytes // what will happen if int
is 2 bytes?
```

27. What is the greatest advantage of exception handling?

One of the most powerful features of exception handling is that an error can be thrown over function boundaries. This allows programmers to put the error handling code in one place, such as the main-function of your program. Exception handling is a powerful technique that separates error-handling code from normal code. It also provides a consistent error handling mechanism. The greatest advantage of exception handling is its ability to handle asynchronous errors.

28. Different between flow chart and data flow diagram?

The main difference between DFD and Flowchart is that DFD is a graphical diagram that represents the data flow of a system while flowchart is a graphical diagram that represents the sequence of steps to solve a problem.

29. Stages Of TESTING

- **Development testing:** the system is tested during development to discover bugs and defects.
- **Release testing:** a separate testing team test a complete version of the system before it is released to users.
- **User testing:** users or potential users of a system test the system in their own environment.

IMPORTANT TOPIC

Leacture 23	Architectural Views , Each style describes a system , Citatory that encompasses
Leacture 24	Architectural Style, Repository model characteristics, Clients Server Model, Representative Client /Server Model

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Lecture 25	partitioning the Architecture, Analyzing Architecture design
Lecture 26	Design patterns defined, Classification of deerns,
lecture 27	singleton pattern facade pattern
Lecture 28	Maintainable code function size
Lecture 29	file handling tips for java and c++, loop structures, Miscellaneous
Lecture 30	comments define Shortcuts And cryptic code
Lecture 31	switch statement
Lecture 32	clarity modularity
Lecture 34	Portability, bit fields
Lecture 35	Exception safety multiple side effects
Lecture 36	software defect Analysis of the code
Lecture 37	Developer and tester different

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Lecture 38	Equivalence class and Equivalence partitioning string matching paths
Lecture 39	cyclamate complexity
Lecture 40	unit testing principle quantitative benefits qualitative, defect origination
Lecture 41	inspection versus testing inspection per condition static analyzer, checklist for static analysis
Lecture 42	define debugging, art and science of debugging
Lecture 43	bug class, loop error, types of errors, pointer errors, Boolean bugs,

- IF YOU found any Mistake than correct it by yourself

THANK YOU

MCS Family Group

1. Vertical partitioning is also known as

- a. Balancing
- b. Mutating
- c. Parallelizing
- d. Factoring

stratified with the decision making modules residing at the top of the hierarchy and worker coming at the bottom. This partitioning is also known as factoring and the general model is depicted in the following diagram.

2. It ensures that a class only has one instance and provides a global point of access to it.

- a. Singleton Pattern
- b. Observer Pattern
- c. Real Pattern
- d. None of the given above

Singleton Pattern

Intent

- It ensures that a class only has one instance and provides a global point of access to it.

3. Fat Client Model is one of the configurations of _____ Model.

- a. Data-centered
- b. Layered
- c. Reference
- d. Client Server

locally extended. It is suitable for new client/server systems when the client system capabilities are known in advance. It however is more complex than thin client model with respect to management issues. Since the client machine now also has a

4. N-tier architecture stems from the struggle to find a _____ between the fat-client architecture and the thin-client architecture.

- a. Concurrency
- b. Distribution point
- c. Middle ground
- d. Similarity

N-tier architecture stems from the struggle to find a middle ground between the fat-client architecture and the thin-client architecture. In this case the idea is to enhance

5. Which of these represents the Krutchen's 4+1 architectural view model?
- a. Logical view, Process view, Physical view, Development view, Use case view
 - b. Logical view, Dynamic view, Physical view, Development view, User case view
 - c. Logical view, Process view, Physical view, Development view, Sequence view
 - d. Dynamic view, Process view, Physical view, Development view, Use case view

His architectural model is known as **Krutchen's** 4+1 architectural view model. As evident, this model proposes the development of 5 main views namely the logical view, the process view, the physical view, the development view, and the use case view. The logical view is the object model of the design, the *process* view captures the concurrency

6. Thin Client Model is one of the configuration of _____ Model
- a. Data-centered
 - b. Client Server
 - c. Layered
 - d. Reference

Thin Client Model

This model was initially used to migrate legacy systems to client server architectures. In this case the legacy system may act as a server in its own right and the GUI may be implemented on a client. Its chief disadvantage is that it places a heavy processing load on both the server and the network.

7. In the N-Tier Architecture the idea is to enhance scalability and _____ by distributing both the data and the application using multiple server machines.
- a. Usability
 - b. Performance
 - c. Interoperability
 - d. Integrity

N-tier architecture stems from the struggle to find a middle ground between the fat-client architecture and the thin-client architecture. In this case the idea is to enhance **scalability and performance** by distributing both the data and the application using multiple server machines. This could involve different types of servers such as

8. Floating point constants should always be written with decimal point and at least
- a. One decimal
 - b. Two decimal
 - c. Three decimal

d. None of the given

Floating point constants should always be written with decimal point and at least one decimal.

9. Which of the following statements are same in output:

1) $a = a >> 2$

2) $a = a/4$

3) $a = a*2$

a. (1) and (3) only

b. (2) and (3) only

c. (1) and (2) only

d. All produce the same result

10. Dynamic process model shows the process _____ of the system.

a. Components

b. Objects

c. Structure

d. Linkage

the architectural design process. Static structural model shows the major system components while a dynamic process model shows the process structure of the system. Interface models are developed to define sub-system interfaces.

11. There are _____ layers in OSI reference model.

a. 5

b. 6

c. 7

d. 8

12. Complex expressions:

a. Make the code easy to modify

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- c. services
- d. Requirements

The client-server model is a distributed system model which shows how data and processing is distributed across a range of components. In this model, the application is modeled as a set of services that are provided by servers and a set of clients that use these services. The system is organized as a set of stand-alone servers which provide specific

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The construction should appear in the top of the file (before the file header).

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- b. run time
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Since multilevel commenting is not supported in C++ and Java, using // comments ensure that it is always possible to comment out entire sections of a file using /* */ for debugging purposes etc.

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- a. Functional view
 - b. Physical view
 - c. Code view
 - d. Logical view

Code View	classes, objects, procedures, functions, subsystems, layers, modules	programmers, designers, reusers	modifiability/maintainability, portability, subsetability
------------------	--	---------------------------------	---

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Partitioning of architecture is an important concept. What we basically want to do is distribute the responsibilities to different subsystems so that we get a software system which is easy to maintain. **Partitioning** results in a system that suffers from fewer side effects. This ultimately means that we get a system that is easier to test and extend and hence is easier to maintain.

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Global variables in C++ should always be referred to by using the :: operator.
::mainWindow.open() , ::applicationContext.getName()

44. Static structural model shows the major systems

- a. Leaks
- b. Components
- c. Activities
- d. Objectives

Like analysis models, many different kinds of architectural models are developed during the architectural design process. **Static structural model** shows the major system components while a dynamic process model shows the process structure of the system.



THANK YOU



Arsal Shani & Aina Malik

MCS Family Group

1. Vertical partitioning is also known as

- a. Balancing
- b. Mutating
- c. Parallelizing
- d. Factoring

stratified with the decision making modules residing at the top of the hierarchy and worker coming at the bottom. This partitioning is also known as factoring and the general model is depicted in the following diagram.

2. It ensures that a class only has one instance and provides a global point of access to it.

- a. Singleton Pattern
- b. Observer Pattern
- c. Real Pattern
- d. None of the given above

Singleton Pattern

Intent

- It ensures that a class only has one instance and provides a global point of access to it.

3. Fat Client Model is one of the configurations of _____ Model.

- a. Data-centered
- b. Layered
- c. Reference
- d. Client Server

locally extended. It is suitable for new client/server systems when the client system capabilities are known in advance. It however is more complex than thin client model with respect to management issues. Since the client machine now also has a

4. N-tier architecture stems from the struggle to find a _____ between the fat-client architecture and the thin-client architecture.

- a. Concurrency
- b. Distribution point
- c. Middle ground
- d. Similarity

N-tier architecture stems from the struggle to find a middle ground between the fat-client architecture and the thin-client architecture. In this case the idea is to enhance

5. Which of these represents the Krutchen's 4+1 architectural view model?
- a. Logical view, Process view, Physical view, Development view, Use case view
 - b. Logical view, Dynamic view, Physical view, Development view, User case view
 - c. Logical view, Process view, Physical view, Development view, Sequence view
 - d. Dynamic view, Process view, Physical view, Development view, Use case view

His architectural model is known as **Krutchen's** 4+1 architectural view model. As evident, this model proposes the development of 5 main views namely the logical view, the process view, the physical view, the development view, and the use case view. The logical view is the object model of the design, the *process* view captures the concurrency

6. Thin Client Model is one of the configuration of _____ Model
- a. Data-centered
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Thin Client Model

This model was initially used to migrate legacy systems to client server architectures. In this case the legacy system may act as a server in its own right and the GUI may be implemented on a client. Its chief disadvantage is that it places a heavy processing load on both the server and the network.

7. In the N-Tier Architecture the idea is to enhance scalability and _____ by distributing both the data and the application using multiple server machines.
- a. Usability
 - b. Performance
 - c. Interoperability
 - d. Integrity

N-tier architecture stems from the struggle to find a middle ground between the fat-client architecture and the thin-client architecture. In this case the idea is to enhance **scalability and performance** by distributing both the data and the application using multiple server machines. This could involve different types of servers such as

8. Floating point constants should always be written with decimal point and at least
- a. One decimal
 - b. Two decimal
 - c. Three decimal

d. None of the given

Floating point constants should always be written with decimal point and at least one decimal.

9. Which of the following statements are same in output:

1) $a = a >> 2$

2) $a = a/4$

3) $a = a*2$

a. (1) and (3) only (I think)

b. (2) and (3) only

c. (1) and (2) only

d. All produce the same result

10. Dynamic process model shows the process _____ of the system.

a. Components

b. Objects

c. Structure

d. Linkage

the architectural design process. Static structural model shows the major system components while a dynamic process model shows the process structure of the system. Interface models are developed to define sub-system interfaces.

11. There are _____ layers in OSI reference model.

a. 5

b. 6

c. 7

d. 8

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Arsal Shani & Aina Malik



CS504- Software Engineering

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MC100401285

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PSMD01(IEMS)

FINAL TERM EXAMINATION Spring 2010 CS504- Software Engineering - I (Session - 2)

Question No: 1 (Marks: 1) - Please choose one

The first step in any OOA process model is to _____

- ▶ build an object-relationship model
- ▶ define collaborations between objects
- ▶ **elicit customer requirements** (A PRACTITIONER'S APPROACH Page603)
- ▶ select a representation language

Question No: 2 (Marks: 1) - Please choose one

A necessary supplement to transform or transaction mapping needed to create a complete architectural design is _____.

- ▶ entity relationship diagrams
- ▶ the data dictionary
- ▶ **processing narratives for each module** (A PRACTITIONER'S APPROACH Page422)
- ▶ test cases for each module

Question No: 3 (Marks: 1) - Please choose one

What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- ▶ behavioral errors
- ▶ **subtle logic errors** [Click here for detail](#)
- ▶ performance errors
- ▶ input error

Question No: 4 (Marks: 1) - Please choose one

Which test criteria should be applied in a phase of testing?

- ▶ functional validity
- ▶ interface integrity
- ▶ correctness
- ▶ **all of the given** (A PRACTITIONER'S APPROACH Page522)

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Question No: 5 (Marks: 1) - Please choose one

The hardest single part of building a software system is deciding precisely ----- to build.

▶ **what (Page 17)**

- ▶ How
- ▶ When
- ▶ Why

Question No: 6 (Marks: 1) - Please choose one

In sequence Diagrams objects are organized in a -----line

▶ **horizontal (Page 106)**

- ▶ vertical
- ▶ horizontal and vertical
- ▶ non of the above

Question No: 7 (Marks: 1) - Please choose one

Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 8 (Marks: 1) - Please choose one

Like analysis models, many different kinds of -----models are developed

▶ **Architectural (Page 126)**

- ▶ System
- ▶ Design
- ▶ Logical

Question No: 9 (Marks: 1) - Please choose one

Idea behind zero install architecture is to develop a system where no installation on the ----- is needed.

▶ **Client side (Page 130)**

- ▶ Server Side
- ▶ Client & Server Side
- ▶ Non of the all

Question No: 10 (Marks: 1) - Please choose one

The construction is used to avoid ----- errors.

▶ **compilation (Page 157)**

- ▶ runtime
- ▶ design time
- ▶ non of them

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Question No: 11 (Marks: 1) - Please choose one
All comments should be written in-----

- ▶ **English (Page 162)**
- ▶ French
- ▶ C++
- ▶ JAVA

Question No: 12 (Marks: 1) - Please choose one
One of the Guidelines to avoid common mistakes is to never use ----- except for declaration

- ▶ **, (Page 176)**
- ▶ ;
- ▶ =
- ▶ ||

Question No: 13 (Marks: 1) - Please choose one
The order in which bytes of one word are stored is ----- dependent

- ▶ **Hardware (Page 181)**
- ▶ Software
- ▶ language
- ▶ system

Question No: 14 (Marks: 1) - Please choose one
Verification and validation are the processes in which we check a product against its ----- and the ----
----- of the users who will be using it

- ▶ **specifications, expectations (Page 192)**
- ▶ statements, expectations
- ▶ specifications , arguments
- ▶ statements, arguments

Question No: 15 (Marks: 1) - Please choose one
Two tests are considered to be equivalent if it is believed that: if one discovers a defect, the other probably will too, and if one does not discover a defect, -----.

- ▶ the other probably may
- ▶ non of them
- ▶ **the other probably won't either (Page 199)**
- ▶ the other probably will

Question No: 16 (Marks: 1) - Please choose one

It was lady named ----- who actually coin the term “bug” for the fiest time.

- ▶ Elisay Chistopher
- ▶ **Admiral Grace Hopper (Page 213)**
- ▶ Ana Nicholson
- ▶ Jane Hopper

Question No: 17 (Marks: 1) - Please choose one

The first “bug” was actually a moth, which flew through an open window and into one of the Mark -----’s relays.

- ▶ **II (Page 213)**
- ▶ I
- ▶ III
- ▶ IV

Question No: 18 (Marks: 1) - Please choose one

Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but the flow of program takes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 19 (Marks: 1) - Please choose one

First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

Question No: 20 (Marks: 1) - Please choose one

Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122)**
- ▶ 4
- ▶ 5

Question No: 21 (Marks: 1) - Please choose one

Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

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Question No: 22 (Marks: 1) - Please choose one
Source files can have the extension -----

- ▶ `c++ .`
- ▶ `.C`
- ▶ `.cpp`
- ▶ **all of the given (Page 155)**

Question No: 23 (Marks: 1) - Please choose one
Be very careful when you use functions with side effects – functions that change the values of the -----

- ▶ **parameters (Page 176)**
- ▶ variables
- ▶ constants
- ▶ None of given

Question No: 24 (Marks: 1) - Please choose one
Which of the following is not a characteristic of software?

- ▶ **Software is tangible**
- ▶ A change to a piece of code may implicitly affect the functions of the rest of the code.
- ▶ Software is configurable.
- ▶ Software does not wear and tear.

Question No: 25 (Marks: 1) - Please choose one
Which of the following is a fact finding method?

- ▶ Site visits
- ▶ **Prototyping**
- ▶ Study of similar systems
- ▶ All of given

Seven common fact-finding methods (Sampling, Research, Observation, Questionnaires, Interviews, Prototyping, Joint Requirements Planning) are introduced as a means to discover requirements.

Question No: 26 (Marks: 1) - Please choose one
The statements given below are associated with system development, testing and maintenance. Identify the correct statement from among them:

- ▶ Some of the activities in the implementation phase are building individual system components, writing of programs and development of user interfaces.
- ▶ The post implementation review is performed to see that the computer system is working.
- ▶ None of Given
- ▶ System development phase consists of a development phase and an implementation phase.

FINAL TERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** http://highered.mcgraw-hill.com/sites/0072853182/student_view0/chapter10/multiple_choice_quiz.html

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 3 (Marks: 1) - Please choose one

Test cases should be designed long before testing begins.

- ▶ **True** (APRACTITIONER'S APPROACH Page 467)
- ▶ False

Question No: 4 (Marks: 1) - Please choose one

Which of the following are characteristics of testable software?

- ▶ observability
- ▶ simplicity
- ▶ stability
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 469)

Question No: 5 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one

By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.

- ▶ **True** [Click here for Detail](#)
- ▶ False

Question No: 7 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 8 (Marks: 1) - Please choose one

A change becomes ----- because of close presence of data and functions

- ▶ **Localized** (Page 81)
- ▶ Private
- ▶ Global
- ▶ Accessible

Question No: 9 (Marks: 1) - Please choose one

Requirement engineering mainly deals with the ----- of the system

- ▶ **definition phase** (Page 16)
- ▶ development phase
- ▶ maintenance
- ▶ non of the above

Question No: 10 (Marks: 1) - Please choose one

40-60% of all defects found in software projects can be traced back to poor -----

- ▶ **Requirements** (Page 17)
- ▶ Design
- ▶ Coding
- ▶ Testing

Question No: 11 (Marks: 1) - Please choose one

In the N-Tier Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance** (Page 131)
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

Question No: 12 (Marks: 1) - Please choose one

MVC pattern was based on the ----- pattern.

- ▶ **Observer** (Page 140)
- ▶ Structural
- ▶ Behavioral
- ▶ Non of them

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Question No: 13 (Marks: 1) - Please choose one

Classes should be declared in individual header files with the file name matching the ----- name.

- ▶ **class (Page 155)**
- ▶ method
- ▶ object
- ▶ non of the all

Question No: 14 (Marks: 1) - Please choose one

Unit testing is roughly equivalent to ----- testing for hardware in which each chip is tested thoroughly after manufacturing

- ▶ Circuit level
- ▶ **Chip Level (Page 207)**
- ▶ component level
- ▶ system level

Question No: 15 (Marks: 1) - Please choose one

Software should be tested more like hardware, with Built-in self testing: such that each unit can be tested -----

- ▶ freely
- ▶ **independently (Page 207)**
- ▶ dependtly
- ▶ completely

Question No: 16 (Marks: 1) - Please choose one

A system ----- is the period in which tremendous pressure is on developers end to fix the problem and make the system running again

- ▶ Uptime
- ▶ **Downtime (Page 214)**
- ▶ Currentime
- ▶ futuretimr

Question No: 17 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- ▶ Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- ▶ If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- ▶ Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- ▶ **Compiler warnings. (Page 220)**

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Question No: 18 (Marks: 1) - Please choose one
Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122) rep**
- ▶ 4
- ▶ 5

Question No: 19 (Marks: 1) - Please choose one
Three tier architecture contains ----- layers

- ▶ Presentation
- ▶ Application
- ▶ Database
- ▶ **All of the above (Page 131)**

Question No: 20 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 21 (Marks: 1) - Please choose one
----- are two important tools that can help in managing and mastering the complexity of a program.

- ▶ **abstraction and encapsulation (Page 170)**
- ▶ abstraction and Inheritance
- ▶ abstraction and Polymorphism
- ▶ None of given

Question No: 22 (Marks: 1) - Please choose one
Which of the following is a/are tool used in requirement analysis?

- ▶ Flow Graphs
- ▶ **Data Flow Diagrams (not sure)**
- ▶ Activity Networks
- ▶ Module Dependency Diagrams

Question No: 23 (Marks: 1) - Please choose one

Consider the following comment. “The software which I bought won’t run on windows and when it runs I can’t use WORD at the same time”. Which of the following do you think are violated by the newly bought software?

- ▶ dependability, interchangeability
- ▶ **platform independence, interoperability**
- ▶ reliability, dependency
- ▶ interoperability, reliability

Question No: 24 (Marks: 1) - Please choose one

..... is a diagramming technique used to identify the types of objects in the system and the static relationships that exist among them?

- ▶ Class Diagram
- ▶ Document flow diagrams
- ▶ Data flow diagrams
- ▶ **Flow charts**

Question No: 25 (Marks: 1) - Please choose one

Which of the following interaction style best suit the design of an interface for visually impaired users?

- ▶ **direct manipulation** (A PRACTITIONER’S APPROACH Page 469)
- ▶ direct manipulation
- ▶ natural language
- ▶ command line

Question No: 26 (Marks: 1) - Please choose one

Which of the following testing involve purely black box testing?

- ▶ unit testing, beta testing
- ▶ acceptance testing, interface testing
- ▶ beta testing, acceptance testing
- ▶ **integration testing, interface testing**

**FINAL TERM EXAMINATION
Spring 2010**

Question No: 1 (Marks: 1) - Please choose one

What are the three generic phases of software engineering?

- ▶ **definition, development, support** (A PRACTITIONER’S APPROACH Page 96)
- ▶ what, how, where
- ▶ programming, debugging, maintenance
- ▶ analysis, design, testing

Question No: 2 (Marks: 1) - Please choose one

In the context of requirements analysis, partitioning results in the elaboration of data, function, or behavior.

- ▶ **True** [Click here for detail](#)
- ▶ False

Question No: 3 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 4 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one

In transaction mapping the first level factoring results in the_____

- ▶ creation of a CFD
- ▶ **derivation of the control hierarchy** [Click here for detail](#)
- ▶ distribution of worker modules
- ▶ refinement of the module view

Question No: 6 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False** (Page 150)

Question No: 7 (Marks: 1) - Please choose one

Class variables should be declared public. This concept violates which of the following.

- ▶ Information hiding
- ▶ Encapsulation
- ▶ **Information hiding and Encapsulation** (Page 158)
- ▶ None of given

Question No: 8 (Marks: 1) - Please choose one

Real-time applications add a new and potentially difficult element to the testing mix

- ▶ performance
- ▶ reliability
- ▶ security
- ▶ **time** (Page 498)

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Question No: 9 (Marks: 1) - Please choose one
Top-down integration testing has as it's major advantage(s) that

- ▶ low level modules never need testing
- ▶ **major decision points are tested early** [Click here for detail](#)
- ▶ no stubs need to be written
- ▶ none of the given

Question No: 10 (Marks: 1) - Please choose one
Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 11 (Marks: 1) - Please choose one
isAuthorized, assess Performance,get item for UPC, get cashier for number, are the examples of

- ▶ **Services (Page 102)**
- ▶ Attributes
- ▶ Links
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one
the *development* view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 13 (Marks: 1) - Please choose one
----- being the first pure Object Oriented language in which observer pattern was used in implementing its Model View Controller

- ▶ **Smalltalk (Page 140)**
- ▶ PASCAL
- ▶ JAVA
- ▶ C++

Question No: 14 (Marks: 1) - Please choose one
Hungarian Notation was first discussed by Charles Simonyi of-----

- ▶ **Microsoft. (Page 149)**
- ▶ Oracle
- ▶ Apple Macintosh
- ▶ Non of the all

Question No: 15 (Marks: 1) - Please choose one
The language does not specify whether ----- is signed or unsigned.

- ▶ **char (Page 181)**
- ▶ integer
- ▶ double
- ▶ constant

Question No: 16 (Marks: 1) - Please choose one
A number of invisible execution paths can exist in simple code in a language that allows -----

- ▶ **exceptions (Page 185)**
- ▶ defects
- ▶ errors
- ▶ all of them

Question No: 17 (Marks: 1) - Please choose one
Bugs Fixing is done by which of the teams in Software Development lifecycle?

- ▶ **Development Team (Page 196)**
- ▶ Testing Team
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 18 (Marks: 1) - Please choose one
Software Bugs have multiple names, Which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 19 (Marks: 1) - Please choose one
Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but takes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 20 (Marks: 1) - Please choose one
First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

Question No: 21 (Marks: 1) - Please choose one
In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 22 (Marks: 1) - Please choose one
Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

Question No: 23 (Marks: 1) - Please choose one
Stakeholders are different people who would be interested in the -----

- ▶ **Software (Page 24)**
- ▶ System
- ▶ Product
- ▶ All of the given

Question No: 24 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ None of the given

Question No: 25 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 26 (Marks: 1) - Please choose one
Which of the following is an/are advantage(s) of object oriented analysis & design over structured system analysis & design?

- ▶ Ease of modeling real world events
- ▶ Reusability
- ▶ Maintainability
- ▶ **All of given [Click here for detail](#)**

FINAL TERM EXAMINATION SPRING 2010

Question No: 1 (Marks: 1) - Please choose one

The two main documents produced during this phase are Requirement Statement and Requirement Specification. They are also called Requirement Definition and -----

- ▶ **Functional Specification (Page 25)**
- ▶ Mathematical specification
- ▶ System Specification
- ▶ None of the given

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used _____

- ▶ To document all conditional statements
- ▶ To guide the development of the project management plan
- ▶ Only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component [Click here for detail](#)**

Question No: 3 (Marks: 1) - Please choose one

Which of the following is a/are tool used in requirement analysis?

- ▶ Flow Graphs
- ▶ **Data Flow Diagrams (not sure)**
- ▶ Activity Networks
- ▶ Module Dependency Diagrams

Question No: 4 (Marks: 1) - Please choose one

MVC stands for -----

- ▶ **Model View Controller (Page 140)**
- ▶ Modern View Center
- ▶ Model View Center
- ▶ Modern View Controller

Question No: 5 (Marks: 1) - Please choose one

A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ Non of the above

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Question No: 6 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- ▶ least difficult
- ▶ **most difficult (Page 226)**
- ▶ very easy
- ▶ easy

Question No: 7 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False**

Question No: 8 (Marks: 1) - Please choose one

Association is a type _____ of relation

- ▶ **Weak (OOP, 49)**
- ▶ Stronger
- ▶ Normal
- ▶ None of above

Question No: 9 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False (Page 150)**

Question No: 10 (Marks: 1) - Please choose one

Bugs that won't (almost random) are the ----- to deal with.

- ▶ **stand still (Page 226)**
- ▶ Dynamic
- ▶ Static
- ▶ None of above

Question No: 11 (Marks: 1) - Please choose one

CRUD include following:-

- ▶ Creat
- ▶ Update
- ▶ Read
- ▶ **All of above (Page 53)**

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Question No: 12 (Marks: 1) - Please choose one

Bugs Finding is done by which of the teams in Software Development lifecycle?

- ▶ Development Team
- ▶ **Testing Team (Page 196)**
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 13 (Marks: 1) - Please choose one

Software Bugs have multiple names, which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 14 (Marks: 1) - Please choose one

In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 15 (Marks: 1) - Please choose one

A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ None of the given

Question No: 16 (Marks: 1) - Please choose one

Project ----- defines the concept and range of the proposed solution, and limitations identify certain capabilities that the product will not include

- ▶ **Scope (Page 30)**
- ▶ Agreement
- ▶ Plan
- ▶ None of the given

Question No: 17 (Marks: 1) - Please choose one

In the N-Tire Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance (Page 131)**
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

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Question No: 18 (Marks: 1)

The cyclomatic complexity metric provides the designer with information regarding the number of

- ▶ Cycles in the program
- ▶ Errors in the program
- ▶ **Independent logic paths in the program** [Click here for detail](#)
- ▶ Statements in the program

Question No: 19 (Marks: 1)

Which of the followings is not a testing type?

- ▶ Subsystem testing
- ▶ Alpha testing
- ▶ Beta Testing
- ▶ **Gamma Testing** (Page 198)

Question No: 20 (Marks: 1)

Which of the items listed below is not one of the software engineering layers?

- ▶ Process
- ▶ **Manufacturing** [Click here for detail](#)
- ▶ Methods
- ▶ Tools

Question No: 21 (Marks: 1)

Which piece of code is self-documented?

- ▶ if (x==0) // this is the case when we are allocating a new number
- ▶ if (AllocFlag == 0)
- ▶ **If (AllocFlag == NEW_NUMBER)** (Page 148)
- ▶ None of the given

FINALTERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

UML (unified modeling language) analysis modeling focuses on the _____ .

- ▶ behavioral model and environment model.
- ▶ behavioral model and implementation model.
- ▶ user model and environmental model
- ▶ **user model and structural model** (A PRACTITIONER'S APPROACH Page 604)

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Question No: 2 (Marks: 1) - Please choose one
What makes requirements elicitation difficult?

- ▶ bounding scope
- ▶ understanding user needs
- ▶ requirements volatility
- ▶ **all of the above** (APRACTITIONER'S APPROACH Page 285)

Question No: 3 (Marks: 1) - Please choose one
In the architecture trade-off analysis method the architectural style should be described using the

- ▶ module view
- ▶ process view
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 403)
- ▶ data flow view

Question No: 4 (Marks: 1) - Please choose one
In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one
A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one
Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False** (Page 150)

Question No: 7 (Marks: 1) - Please choose one
Which of these are objectives for software testing?

- ▶ determine the productivity of programmers
- ▶ eliminate the need for future program maintenance
- ▶ eliminate every error prior to release
- ▶ **uncover software errors** (APRACTITIONER'S APPROACH Page 467)

Question No: 8 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 9 (Marks: 1) - Please choose one

In software quality assurance work there is no difference between software verification and software validation

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 10 (Marks: 1) - Please choose one

Top-down integration testing has as its major advantage(s) that

- ▶ low level modules never need testing
- ▶ major decision points are tested early
- ▶ **no stubs need to be written** [Click here for detail](#)
- ▶ none of the given

Question No: 11 (Marks: 1) - Please choose one

Rooko mut jane do depicts one of risks associated with inadequate requirements gathering, the name of that risk is -----

- ▶ **Ambiguous requirements** (Page 20)
- ▶ Creeping Requirements
- ▶ Minimal Specification
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one

Interaction Diagrams depict the ----- Behavior of the system

- ▶ Static
- ▶ **Dynamic** (Page 106)
- ▶ Active
- ▶ Non of the above

Question No: 13 (Marks: 1) - Please choose one

In Sequence Diagrams events are organized in a-----time line

- ▶ Vertical
- ▶ **Horizontal** (Page 106)
- ▶ Vertical & Horizontal
- ▶ Non of the above

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Question No: 14 (Marks: 1) - Please choose one
the development view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 15 (Marks: 1) - Please choose one
Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 16 (Marks: 1) - Please choose one
object-oriented framework that is a set of cooperative classes that make up reusable ----- of a system

- ▶ Code
- ▶ **Design (Page 138)**
- ▶ Analysis
- ▶ non of the all

Question No: 17 (Marks: 1) - Please choose one
When planning for performance, one should always remember the ----- rule

- ▶ **80/20 (Page 177)**
- ▶ 20/80
- ▶ 80/22
- ▶ 80/90

Question No: 18 (Marks: 1) - Please choose one
In order to make a code more portable, Instead of using vendor specific language extensions, use -----
- as much as possible

- ▶ **STL (Page 179)**
- ▶ ANSI
- ▶ ISO
- ▶ CMMI

Question No: 19 (Marks: 1) - Please choose one
Performance & Usability are examples of ----- requirements

- ▶ Business

- ▶ Functionail
- ▶ **Non-Functionail (Page 39)**
- ▶ User

Question No: 20 (Marks: 1) - Please choose one
Static analyzers are software tools for ----- processing.

- ▶ analysis text
- ▶ **source text (Page 211)**
- ▶ design text
- ▶ non of the given

Question No: 21 (Marks: 1) - Please choose one
Software Bugs have multiple names, Which one of the belw is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 22 (Marks: 1) - Please choose one
According to a survey, when a software application is in the maintenance phase, ----- of its lifecycle cost is attributed towards the defects which are found in the software application after installation

- ▶ **20 % (Page 214)**
- ▶ 25 %
- ▶ 30%
- ▶ 35%

Question No: 23 (Marks: 1) - Please choose one
Bugs that won't "-----" (almost random) are the most difficult to deal with.

- ▶ **stand still (Page 226)**
- ▶ dynamic
- ▶ running
- ▶ stand tall

Question No: 24 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 25 (Marks: 1) - Please choose one

If you are initializing a variable at the time of declaration, do not declare another ----- in the same statement.

- ▶ **variable (Page 176)**
- ▶ object
- ▶ class
- ▶ None of given

Question No: 26 (Marks: 1) - Please choose one

During Requirement Engineering process which of the following is/are document(s) used for fact finding?

- ▶ Company's employee list
- ▶ Samples of the company databases
- ▶ The company's mission statement and plan
- ▶ **All of given**

**FINAL TERM EXAMINATION
Fall 2008**

Question No: 1 (Marks: 1) - Please choose one

Object-oriented domain analysis is concerned with the identification and specification of reusable capabilities within an application domain.

- **True [Click here for detail](#)**
- False

Question No: 2 (Marks: 1) - Please choose one

Fourth generation techniques

- Allow software to be developed without any testing.
- Eliminate the need for costly requirements gathering activities.
- **Can reduce the time required to develop software.**

(APRACTITIONER'S APPROACH Page 73)

- Are best used by non-programmers to build small systems.

Question No: 3 (Marks: 1) - Please choose one

Data design actually begins during the creation of the analysis model, not the architectural model.

- **True (APRACTITIONER'S APPROACH Page 397)**
- False

Question No: 4 (Marks: 1) - Please choose one

The states shown in a state transition diagram do not necessarily correspond to the processes shown in a control flow diagram for the same system.

- **True** (APRACTITIONER'S APPROACH Page 397)
- False

Question No: 5 (Marks: 1) - Please choose one

The criteria used to assess the quality of an architectural design should be based on system

- **accessibility and reliability** (APRACTITIONER'S APPROACH Page 404)
- data and control
- functionality
- implementation details

Question No: 6 (Marks: 1) - Please choose one

A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

- number and size of components
- **flow dependencies and sharing dependencies** (APRACTITIONER'S APPROACH Page 406)
- size and cost
- none of the given

Question No: 7 (Marks: 1) - Please choose one

The three basic principles that guide maintainability are: simplicity, clarity, and _____ .

- **Generality** (Page 146)
- Reliability
- All of the given choices
- None of the Given choices

Question No: 8 (Marks: 1) - Please choose one

In order to make a program self documented a number of attributes required. Which one is the attribute/s of self documented program

- **All of the given choices** (Page 147)
- Size of each function
- Choice of variable
- Modularity

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Question No: 9 (Marks: 1) - Please choose one

Floating point constants should always be written with decimal point and at least

- **one decimal (Page 161)**
- two decimal
- three decimal
- none of the given

Question No: 10 (Marks: 1) - Please choose one

The code becomes self explanatory with the help of proper use of parentheses. Select the right one.

- `leapYear = year % 4 == 0 && year % 100 != 0 || year % 400 == 0 ;`
- `leapYear = ((year % 4 == 0) && (year % 100 != 0) || ((year % 400 == 0)));`
- **`leapYear = ((year % 4 == 0) && (year % 100 != 0) || (year % 400 == 0));` (Page 164)**
- `leapYear = (year % 4 == 0) && (year % 100 != 0) || (year % 400 == 0);`
- none of the given options

Question No: 11 (Marks: 1) - Please choose one

Graph-based testing methods can only be used for object-oriented systems

- True
- **False** [Click here for detail](#)

Question No: 12 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- True
- **False** [Click here for Detail](#)

Question No: 13 (Marks: 1) - Please choose one

A class is a ----- of objects

- **Template (Page 85)**
- Stereotype
- Collection
- Non of the above

Question No: 14 (Marks: 1) - Please choose one

A public Interface provides a way for with other Classes.

- **Communication**
- Accessibility
- Reaching
- All of the above

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Question No: 15 (Marks: 1) - Please choose one
Flow Charts represents

- **sequence Activity (Page 50)**
- random activity
- parallel activity
- non of the above

Question No: 16 (Marks: 1) - Please choose one
Software architecture defines the high level structure of the software by putting together a number of architectural ----- in an organized fashion.

- **Elements (Page 122)**
- parts
- components
- non of the all

Question No: 17 (Marks: 1) - Please choose one
Patterns are devices that allow programs to share knowledge about their -----.

- **Design (Page 137)**
- Code
- Analysis
- Non of the all

Question No: 18 (Marks: 1) - Please choose one
MVC stands for -----

- **Model View Controller (Page 140)**
- Modern View Center
- Model View Center
- Modern View Controller

Question No: 19 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- **Self documenting code (Page 147)**
- Self telling Code
- Self Documenting Design
- Non of the them

Question No: 20 (Marks: 1) - Please choose one
Type conversions must always be done -----

- **Explicitly (Page 158)**
- implicitly
- simultaneously
- non of them

Question No: 21 (Marks: 1) - Please choose one
Types that are -----to one file only can be declared inside that file.

- **Local (Page 158)**
- Global
- Private
- General

Question No: 22 (Marks: 1) - Please choose one
The use of do while loops should be -----

- **Avoided (Page 159)**
- encouraged
- practiced
- non of them

Question No: 23 (Marks: 1) - Please choose one
One of the causes of the portability issues is the order of ----- varies from one implementation to other.

- **Evaluation (Page 181)**
- numbers
- variables
- symbols

Question No: 24 (Marks: 1) - Please choose one
----- is a powerful technique that separates error-handling code from normal code.

- **Exception handling (Page 184)**
- Code handling
- variable handling
- pointer handling

Question No: 25 (Marks: 1) - Please choose one

The goal of testing is to expose ----- defects in a software system before it is put to use.

- **Latent (Page 193)**
- already present
- current
- runtime

Question No: 26 (Marks: 1) - Please choose one

Static analyzers are software tools for ----- processing.

- analysis text
- **source text (Page 211)**
- design text
- non of the given

Question No: 27 (Marks: 1) - Please choose one

The first bug was actually a moth, which flew through an open window and into one of the Mark -----'s relays.

- **II (Page 213)**
- I
- III
- IV

Question No: 28 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- **Compiler warnings. (Page 220)**

Question No: 29 (Marks: 1) - Please choose one

Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

- reason
- **disease (Page 224)**
- source
- non of the given

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Question No: 30 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- least difficult
- **most difficult (Page 226)**
- very easy
- easy



CS504- Software Engineering

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FINAL TERM EXAMINATION Spring 2010 CS504- Software Engineering - I (Session - 2)

Question No: 1 (Marks: 1) - Please choose one

The first step in any OOA process model is to _____

- ▶ build an object-relationship model
- ▶ define collaborations between objects
- ▶ **elicit customer requirements** (A PRACTITIONER'S APPROACH Page603)
- ▶ select a representation language

Question No: 2 (Marks: 1) - Please choose one

A necessary supplement to transform or transaction mapping needed to create a complete architectural design is _____.

- ▶ entity relationship diagrams
- ▶ the data dictionary
- ▶ **processing narratives for each module** (A PRACTITIONER'S APPROACH Page422)
- ▶ test cases for each module

Question No: 3 (Marks: 1) - Please choose one

What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- ▶ behavioral errors
- ▶ **subtle logic errors** [Click here for detail](#)
- ▶ performance errors
- ▶ input error

Question No: 4 (Marks: 1) - Please choose one

Which test criteria should be applied in a phase of testing?

- ▶ functional validity
- ▶ interface integrity
- ▶ correctness
- ▶ **all of the given** (A PRACTITIONER'S APPROACH Page522)

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Question No: 5 (Marks: 1) - Please choose one

The hardest single part of building a software system is deciding precisely ----- to build.

▶ **what (Page 17)**

- ▶ How
- ▶ When
- ▶ Why

Question No: 6 (Marks: 1) - Please choose one

In sequence Diagrams objects are organized in a -----line

▶ **horizontal (Page 106)**

- ▶ vertical
- ▶ horizontal and vertical
- ▶ non of the above

Question No: 7 (Marks: 1) - Please choose one

Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 8 (Marks: 1) - Please choose one

Like analysis models, many different kinds of -----models are developed

▶ **Architectural (Page 126)**

- ▶ System
- ▶ Design
- ▶ Logical

Question No: 9 (Marks: 1) - Please choose one

Idea behind zero install architecture is to develop a system where no installation on the ----- is needed.

▶ **Client side (Page 130)**

- ▶ Server Side
- ▶ Client & Server Side
- ▶ Non of the all

Question No: 10 (Marks: 1) - Please choose one

The construction is used to avoid ----- errors.

▶ **compilation (Page 157)**

- ▶ runtime
- ▶ design time
- ▶ non of them

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Question No: 11 (Marks: 1) - Please choose one
All comments should be written in-----

- ▶ **English (Page 162)**
- ▶ French
- ▶ C++
- ▶ JAVA

Question No: 12 (Marks: 1) - Please choose one
One of the Guidelines to avoid common mistakes is to never use ----- except for declaration

- ▶ **, (Page 176)**
- ▶ ;
- ▶ =
- ▶ ||

Question No: 13 (Marks: 1) - Please choose one
The order in which bytes of one word are stored is ----- dependent

- ▶ **Hardware (Page 181)**
- ▶ Software
- ▶ language
- ▶ system

Question No: 14 (Marks: 1) - Please choose one
Verification and validation are the processes in which we check a product against its ----- and the ----
----- of the users who will be using it

- ▶ **specifications, expectations (Page 192)**
- ▶ statements, expectations
- ▶ specifications , arguments
- ▶ statements, arguments

Question No: 15 (Marks: 1) - Please choose one
Two tests are considered to be equivalent if it is believed that: if one discovers a defect, the other probably will too, and if one does not discover a defect, -----.

- ▶ the other probably may
- ▶ non of them
- ▶ **the other probably won't either (Page 199)**
- ▶ the other probably will

Question No: 16 (Marks: 1) - Please choose one

It was lady named ----- who actually coin the term “bug” for the fiest time.

- ▶ Elisay Chistopher
- ▶ **Admiral Grace Hopper (Page 213)**
- ▶ Ana Nicholson
- ▶ Jane Hopper

Question No: 17 (Marks: 1) - Please choose one

**The first “bug” was actually a moth, which flew through an open window and into one of the Mark -----
--’s relays.**

- ▶ **II (Page 213)**
- ▶ I
- ▶ III
- ▶ IV

Question No: 18 (Marks: 1) - Please choose one

Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but the flow of program takes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 19 (Marks: 1) - Please choose one

First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

Question No: 20 (Marks: 1) - Please choose one

Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122)**
- ▶ 4
- ▶ 5

Question No: 21 (Marks: 1) - Please choose one

Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

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Question No: 22 (Marks: 1) - Please choose one
Source files can have the extension -----

- ▶ `c++ .`
- ▶ `.C`
- ▶ `.cpp`
- ▶ **all of the given (Page 155)**

Question No: 23 (Marks: 1) - Please choose one
Be very careful when you use functions with side effects – functions that change the values of the -----

- ▶ **parameters (Page 176)**
- ▶ variables
- ▶ constants
- ▶ None of given

Question No: 24 (Marks: 1) - Please choose one
Which of the following is not a characteristic of software?

- ▶ **Software is tangible**
- ▶ A change to a piece of code may implicitly affect the functions of the rest of the code.
- ▶ Software is configurable.
- ▶ Software does not wear and tear.

Question No: 25 (Marks: 1) - Please choose one
Which of the following is a fact finding method?

- ▶ Site visits
- ▶ **Prototyping**
- ▶ Study of similar systems
- ▶ All of given

Seven common fact-finding methods (Sampling, Research, Observation, Questionnaires, Interviews, Prototyping, Joint Requirements Planning) are introduced as a means to discover requirements.

Question No: 26 (Marks: 1) - Please choose one
The statements given below are associated with system development, testing and maintenance. Identify the correct statement from among them:

- ▶ Some of the activities in the implementation phase are building individual system components, writing of programs and development of user interfaces.
- ▶ The post implementation review is performed to see that the computer system is working.
- ▶ None of Given
- ▶ System development phase consists of a development phase and an implementation phase.

FINAL TERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** http://highered.mcgraw-hill.com/sites/0072853182/student_view0/chapter10/multiple_choice_quiz.html

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 3 (Marks: 1) - Please choose one

Test cases should be designed long before testing begins.

- ▶ **True** (APRACTITIONER'S APPROACH Page 467)
- ▶ False

Question No: 4 (Marks: 1) - Please choose one

Which of the following are characteristics of testable software?

- ▶ observability
- ▶ simplicity
- ▶ stability
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 469)

Question No: 5 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one

By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.

- ▶ **True** [Click here for Detail](#)
- ▶ False

Question No: 7 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 8 (Marks: 1) - Please choose one

A change becomes ----- because of close presence of data and functions

- ▶ **Localized** (Page 81)
- ▶ Private
- ▶ Global
- ▶ Accessible

Question No: 9 (Marks: 1) - Please choose one

Requirement engineering mainly deals with the ----- of the system

- ▶ **definition phase** (Page 16)
- ▶ development phase
- ▶ maintenance
- ▶ non of the above

Question No: 10 (Marks: 1) - Please choose one

40-60% of all defects found in software projects can be traced back to poor -----

- ▶ **Requirements** (Page 17)
- ▶ Design
- ▶ Coding
- ▶ Testing

Question No: 11 (Marks: 1) - Please choose one

In the N-Tier Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance** (Page 131)
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

Question No: 12 (Marks: 1) - Please choose one

MVC pattern was based on the ----- pattern.

- ▶ **Observer** (Page 140)
- ▶ Structural
- ▶ Behavioral
- ▶ Non of them

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Question No: 13 (Marks: 1) - Please choose one

Classes should be declared in individual header files with the file name matching the ----- name.

- ▶ **class (Page 155)**
- ▶ method
- ▶ object
- ▶ non of the all

Question No: 14 (Marks: 1) - Please choose one

Unit testing is roughly equivalent to ----- testing for hardware in which each chip is tested thoroughly after manufacturing

- ▶ Circuit level
- ▶ **Chip Level (Page 207)**
- ▶ component level
- ▶ system level

Question No: 15 (Marks: 1) - Please choose one

Software should be tested more like hardware, with Built-in self testing: such that each unit can be tested -----

- ▶ freely
- ▶ **independently (Page 207)**
- ▶ dependtly
- ▶ completely

Question No: 16 (Marks: 1) - Please choose one

A system ----- is the period in which tremendous pressure is on developers end to fix the problem and make the system running again

- ▶ Uptime
- ▶ **Downtime (Page 214)**
- ▶ Currentime
- ▶ futuretimr

Question No: 17 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- ▶ Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- ▶ If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- ▶ Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- ▶ **Compiler warnings. (Page 220)**

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Question No: 18 (Marks: 1) - Please choose one
Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122) rep**
- ▶ 4
- ▶ 5

Question No: 19 (Marks: 1) - Please choose one
Three tier architecture contains ----- layers

- ▶ Presentation
- ▶ Application
- ▶ Database
- ▶ **All of the above (Page 131)**

Question No: 20 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 21 (Marks: 1) - Please choose one
----- are two important tools that can help in managing and mastering the complexity of a program.

- ▶ **abstraction and encapsulation (Page 170)**
- ▶ abstraction and Inheritance
- ▶ abstraction and Polymorphism
- ▶ None of given

Question No: 22 (Marks: 1) - Please choose one
Which of the following is a/are tool used in requirement analysis?

- ▶ Flow Graphs
- ▶ **Data Flow Diagrams (not sure)**
- ▶ Activity Networks
- ▶ Module Dependency Diagrams

Question No: 23 (Marks: 1) - Please choose one

Consider the following comment. “The software which I bought won’t run on windows and when it runs I can’t use WORD at the same time”. Which of the following do you think are violated by the newly bought software?

- ▶ dependability, interchangeability
- ▶ **platform independence, interoperability**
- ▶ reliability, dependency
- ▶ interoperability, reliability

Question No: 24 (Marks: 1) - Please choose one

..... is a diagramming technique used to identify the types of objects in the system and the static relationships that exist among them?

- ▶ Class Diagram
- ▶ Document flow diagrams
- ▶ Data flow diagrams
- ▶ **Flow charts**

Question No: 25 (Marks: 1) - Please choose one

Which of the following interaction style best suit the design of an interface for visually impaired users?

- ▶ **direct manipulation** (A PRACTITIONER’S APPROACH Page 469)
- ▶ direct manipulation
- ▶ natural language
- ▶ command line

Question No: 26 (Marks: 1) - Please choose one

Which of the following testing involve purely black box testing?

- ▶ unit testing, beta testing
- ▶ acceptance testing, interface testing
- ▶ beta testing, acceptance testing
- ▶ **integration testing, interface testing**

**FINAL TERM EXAMINATION
Spring 2010**

Question No: 1 (Marks: 1) - Please choose one

What are the three generic phases of software engineering?

- ▶ **definition, development, support** (A PRACTITIONER’S APPROACH Page 96)
- ▶ what, how, where
- ▶ programming, debugging, maintenance
- ▶ analysis, design, testing

Question No: 2 (Marks: 1) - Please choose one

In the context of requirements analysis, partitioning results in the elaboration of data, function, or behavior.

- ▶ **True** [Click here for detail](#)
- ▶ False

Question No: 3 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 4 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one

In transaction mapping the first level factoring results in the_____

- ▶ creation of a CFD
- ▶ **derivation of the control hierarchy** [Click here for detail](#)
- ▶ distribution of worker modules
- ▶ refinement of the module view

Question No: 6 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False** (Page 150)

Question No: 7 (Marks: 1) - Please choose one

Class variables should be declared public. This concept violates which of the following.

- ▶ Information hiding
- ▶ Encapsulation
- ▶ **Information hiding and Encapsulation** (Page 158)
- ▶ None of given

Question No: 8 (Marks: 1) - Please choose one

Real-time applications add a new and potentially difficult element to the testing mix

- ▶ performance
- ▶ reliability
- ▶ security
- ▶ **time** (Page 498)

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Question No: 9 (Marks: 1) - Please choose one
Top-down integration testing has as it's major advantage(s) that

- ▶ low level modules never need testing
- ▶ **major decision points are tested early** [Click here for detail](#)
- ▶ no stubs need to be written
- ▶ none of the given

Question No: 10 (Marks: 1) - Please choose one
Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 11 (Marks: 1) - Please choose one
isAuthorized, assess Performance,get item for UPC, get cashier for number, are the examples of

- ▶ **Services (Page 102)**
- ▶ Attributes
- ▶ Links
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one
the *development* view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 13 (Marks: 1) - Please choose one
----- being the first pure Object Oriented language in which observer pattern was used in implementing its Model View Controller

- ▶ **Smalltalk (Page 140)**
- ▶ PASCAL
- ▶ JAVA
- ▶ C++

Question No: 14 (Marks: 1) - Please choose one
Hungarian Notation was first discussed by Charles Simonyi of-----

- ▶ **Microsoft. (Page 149)**
- ▶ Oracle
- ▶ Apple Macintosh
- ▶ Non of the all

Question No: 15 (Marks: 1) - Please choose one
The language does not specify whether ----- is signed or unsigned.

- ▶ **char (Page 181)**
- ▶ integer
- ▶ double
- ▶ constant

Question No: 16 (Marks: 1) - Please choose one
A number of invisible execution paths can exist in simple code in a language that allows -----

- ▶ **exceptions (Page 185)**
- ▶ defects
- ▶ errors
- ▶ all of them

Question No: 17 (Marks: 1) - Please choose one
Bugs Fixing is done by which of the teams in Software Development lifecycle?

- ▶ **Development Team (Page 196)**
- ▶ Testing Team
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 18 (Marks: 1) - Please choose one
Software Bugs have multiple names, Which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 19 (Marks: 1) - Please choose one
Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but akes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 20 (Marks: 1) - Please choose one
First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

Question No: 21 (Marks: 1) - Please choose one
In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 22 (Marks: 1) - Please choose one
Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

Question No: 23 (Marks: 1) - Please choose one
Stakeholders are different people who would be interested in the -----

- ▶ **Software (Page 24)**
- ▶ System
- ▶ Product
- ▶ All of the given

Question No: 24 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
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- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 26 (Marks: 1) - Please choose one
Which of the following is an/are advantage(s) of object oriented analysis & design over structured system analysis & design?

- ▶ Ease of modeling real world events
- ▶ Reusability
- ▶ Maintainability
- ▶ **All of given [Click here for detail](#)**

FINAL TERM EXAMINATION SPRING 2010

Question No: 1 (Marks: 1) - Please choose one

The two main documents produced during this phase are Requirement Statement and Requirement Specification. They are also called Requirement Definition and -----

- ▶ **Functional Specification (Page 25)**
- ▶ Mathematical specification
- ▶ System Specification
- ▶ None of the given

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used _____

- ▶ To document all conditional statements
- ▶ To guide the development of the project management plan
- ▶ Only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component [Click here for detail](#)**

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- ▶ **Model View Controller (Page 140)**
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Question No: 6 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- ▶ least difficult
- ▶ **most difficult (Page 226)**
- ▶ very easy
- ▶ easy

Question No: 7 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False**

Question No: 8 (Marks: 1) - Please choose one

Association is a type _____ of relation

- ▶ **Weak (OOP , 49)**
- ▶ Stronger
- ▶ Normal
- ▶ None of above

Question No: 9 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False (Page 150)**

Question No: 10 (Marks: 1) - Please choose one

Bugs that won't (almost random) are the ----- to deal with.

- ▶ **stand still (Page 226)**
- ▶ Dynamic
- ▶ Static
- ▶ None of above

Question No: 11 (Marks: 1) - Please choose one

CRUD include following:-

- ▶ Creat
- ▶ Update
- ▶ Read
- ▶ **All of above (Page 53)**

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Question No: 12 (Marks: 1) - Please choose one

Bugs Finding is done by which of the teams in Software Development lifecycle?

- ▶ Development Team
- ▶ **Testing Team (Page 196)**
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 13 (Marks: 1) - Please choose one

Software Bugs have multiple names, which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 14 (Marks: 1) - Please choose one

In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 15 (Marks: 1) - Please choose one

A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ None of the given

Question No: 16 (Marks: 1) - Please choose one

Project ----- defines the concept and range of the proposed solution, and limitations identify certain capabilities that the product will not include

- ▶ **Scope (Page 30)**
- ▶ Agreement
- ▶ Plan
- ▶ None of the given

Question No: 17 (Marks: 1) - Please choose one

In the N-Tire Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance (Page 131)**
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

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Question No: 18 (Marks: 1)

The cyclomatic complexity metric provides the designer with information regarding the number of

- ▶ Cycles in the program
- ▶ Errors in the program
- ▶ **Independent logic paths in the program** [Click here for detail](#)
- ▶ Statements in the program

Question No: 19 (Marks: 1)

Which of the followings is not a testing type?

- ▶ Subsystem testing
- ▶ Alpha testing
- ▶ Beta Testing
- ▶ **Gamma Testing** (Page 198)

Question No: 20 (Marks: 1)

Which of the items listed below is not one of the software engineering layers?

- ▶ Process
- ▶ **Manufacturing** [Click here for detail](#)
- ▶ Methods
- ▶ Tools

Question No: 21 (Marks: 1)

Which piece of code is self-documented?

- ▶ if (x==0) // this is the case when we are allocating a new number
- ▶ if (AllocFlag == 0)
- ▶ **If (AllocFlag == NEW_NUMBER)** (Page 148)
- ▶ None of the given

FINALTERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

UML (unified modeling language) analysis modeling focuses on the _____ .

- ▶ behavioral model and environment model.
- ▶ behavioral model and implementation model.
- ▶ user model and environmental model
- ▶ **user model and structural model** (A PRACTITIONER'S APPROACH Page 604)

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Question No: 2 (Marks: 1) - Please choose one
What makes requirements elicitation difficult?

- ▶ bounding scope
- ▶ understanding user needs
- ▶ requirements volatility
- ▶ **all of the above** (APRACTITIONER'S APPROACH Page 285)

Question No: 3 (Marks: 1) - Please choose one
In the architecture trade-off analysis method the architectural style should be described using the

- ▶ module view
- ▶ process view
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 403)
- ▶ data flow view

Question No: 4 (Marks: 1) - Please choose one
In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one
A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one
Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False** (Page 150)

Question No: 7 (Marks: 1) - Please choose one
Which of these are objectives for software testing?

- ▶ determine the productivity of programmers
- ▶ eliminate the need for future program maintenance
- ▶ eliminate every error prior to release
- ▶ **uncover software errors** (APRACTITIONER'S APPROACH Page 467)

Question No: 8 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 9 (Marks: 1) - Please choose one

In software quality assurance work there is no difference between software verification and software validation

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 10 (Marks: 1) - Please choose one

Top-down integration testing has as its major advantage(s) that

- ▶ low level modules never need testing
- ▶ major decision points are tested early
- ▶ **no stubs need to be written** [Click here for detail](#)
- ▶ none of the given

Question No: 11 (Marks: 1) - Please choose one

Rooko mut jane do depicts one of risks associated with inadequate requirements gathering, the name of that risk is -----

- ▶ **Ambiguous requirements** (Page 20)
- ▶ Creeping Requirements
- ▶ Minimal Specification
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one

Interaction Diagrams depict the ----- Behavior of the system

- ▶ Static
- ▶ **Dynamic** (Page 106)
- ▶ Active
- ▶ Non of the above

Question No: 13 (Marks: 1) - Please choose one

In Sequence Diagrams events are organized in a-----time line

- ▶ Vertical
- ▶ **Horizontal** (Page 106)
- ▶ Vertical & Horizontal
- ▶ Non of the above

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Question No: 14 (Marks: 1) - Please choose one
the development view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 15 (Marks: 1) - Please choose one
Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 16 (Marks: 1) - Please choose one
object-oriented framework that is a set of cooperative classes that make up reusable ----- of a system

- ▶ Code
- ▶ **Design (Page 138)**
- ▶ Analysis
- ▶ non of the all

Question No: 17 (Marks: 1) - Please choose one
When planning for performance, one should always remember the ----- rule

- ▶ **80/20 (Page 177)**
- ▶ 20/80
- ▶ 80/22
- ▶ 80/90

Question No: 18 (Marks: 1) - Please choose one
In order to make a code more portable, Instead of using vendor specific language extensions, use -----
- as much as possible

- ▶ **STL (Page 179)**
- ▶ ANSI
- ▶ ISO
- ▶ CMMI

Question No: 19 (Marks: 1) - Please choose one
Performance & Usability are examples of ----- requirements

- ▶ Business

- ▶ Functionail
- ▶ **Non-Functionail (Page 39)**
- ▶ User

Question No: 20 (Marks: 1) - Please choose one
Static analyzers are software tools for ----- processing.

- ▶ analysis text
- ▶ **source text (Page 211)**
- ▶ design text
- ▶ non of the given

Question No: 21 (Marks: 1) - Please choose one
Software Bugs have multiple names, Which one of the belw is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 22 (Marks: 1) - Please choose one
According to a survey, when a software application is in the maintenance phase, ----- of its lifecycle cost is attributed towards the defects which are found in the software application after installation

- ▶ **20 % (Page 214)**
- ▶ 25 %
- ▶ 30%
- ▶ 35%

Question No: 23 (Marks: 1) - Please choose one
Bugs that won't "-----" (almost random) are the most difficult to deal with.

- ▶ **stand still (Page 226)**
- ▶ dynamic
- ▶ running
- ▶ stand tall

Question No: 24 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 25 (Marks: 1) - Please choose one

If you are initializing a variable at the time of declaration, do not declare another ----- in the same statement.

- ▶ **variable (Page 176)**
- ▶ object
- ▶ class
- ▶ None of given

Question No: 26 (Marks: 1) - Please choose one

During Requirement Engineering process which of the following is/are document(s) used for fact finding?

- ▶ Company's employee list
- ▶ Samples of the company databases
- ▶ The company's mission statement and plan
- ▶ **All of given**

**FINAL TERM EXAMINATION
Fall 2008**

Question No: 1 (Marks: 1) - Please choose one

Object-oriented domain analysis is concerned with the identification and specification of reusable capabilities within an application domain.

- **True [Click here for detail](#)**
- False

Question No: 2 (Marks: 1) - Please choose one

Fourth generation techniques

- Allow software to be developed without any testing.
- Eliminate the need for costly requirements gathering activities.
- **Can reduce the time required to develop software.**

(APRACTITIONER'S APPROACH Page 73)

- Are best used by non-programmers to build small systems.

Question No: 3 (Marks: 1) - Please choose one

Data design actually begins during the creation of the analysis model, not the architectural model.

- **True (APRACTITIONER'S APPROACH Page 397)**
- False

Question No: 4 (Marks: 1) - Please choose one

The states shown in a state transition diagram do not necessarily correspond to the processes shown in a control flow diagram for the same system.

- **True** (APRACTITIONER'S APPROACH Page 397)
- False

Question No: 5 (Marks: 1) - Please choose one

The criteria used to assess the quality of an architectural design should be based on system

- **accessibility and reliability** (APRACTITIONER'S APPROACH Page 404)
- data and control
- functionality
- implementation details

Question No: 6 (Marks: 1) - Please choose one

A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

- number and size of components
- **flow dependencies and sharing dependencies** (APRACTITIONER'S APPROACH Page 406)
- size and cost
- none of the given

Question No: 7 (Marks: 1) - Please choose one

The three basic principles that guide maintainability are: simplicity, clarity, and _____ .

- **Generality** (Page 146)
- Reliability
- All of the given choices
- None of the Given choices

Question No: 8 (Marks: 1) - Please choose one

In order to make a program self documented a number of attributes required. Which one is the attribute/s of self documented program

- **All of the given choices** (Page 147)
- Size of each function
- Choice of variable
- Modularity

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Question No: 9 (Marks: 1) - Please choose one

Floating point constants should always be written with decimal point and at least

- **one decimal (Page 161)**
- two decimal
- three decimal
- none of the given

Question No: 10 (Marks: 1) - Please choose one

The code becomes self explanatory with the help of proper use of parentheses. Select the right one.

- `leapYear = year % 4 == 0 && year % 100 != 0 || year % 400 == 0 ;`
- `leapYear = ((year % 4 == 0) && (year % 100 != 0) || ((year % 400 == 0)));`
- **`leapYear = ((year % 4 == 0) && (year % 100 != 0) || (year % 400 == 0));` (Page 164)**
- `leapYear = (year % 4 == 0) && (year % 100 != 0) || (year % 400 == 0);`
- none of the given options

Question No: 11 (Marks: 1) - Please choose one

Graph-based testing methods can only be used for object-oriented systems

- True
- **False** [Click here for detail](#)

Question No: 12 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- True
- **False** [Click here for Detail](#)

Question No: 13 (Marks: 1) - Please choose one

A class is a ----- of objects

- **Template (Page 85)**
- Stereotype
- Collection
- Non of the above

Question No: 14 (Marks: 1) - Please choose one

A public Interface provides a way for with other Classes.

- **Communication**
- Accessibility
- Reaching
- All of the above

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Question No: 15 (Marks: 1) - Please choose one
Flow Charts represents

- **sequence Activity (Page 50)**
- random activity
- parallel activity
- non of the above

Question No: 16 (Marks: 1) - Please choose one
Software architecture defines the high level structure of the software by putting together a number of architectural ----- in an organized fashion.

- **Elements (Page 122)**
- parts
- components
- non of the all

Question No: 17 (Marks: 1) - Please choose one
Patterns are devices that allow programs to share knowledge about their -----.

- **Design (Page 137)**
- Code
- Analysis
- Non of the all

Question No: 18 (Marks: 1) - Please choose one
MVC stands for -----

- **Model View Controller (Page 140)**
- Modern View Center
- Model View Center
- Modern View Controller

Question No: 19 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- **Self documenting code (Page 147)**
- Self telling Code
- Self Documenting Design
- Non of the them

Question No: 20 (Marks: 1) - Please choose one
Type conversions must always be done -----

- **Explicitly (Page 158)**
- implicitly
- simultaneously
- non of them

Question No: 21 (Marks: 1) - Please choose one
Types that are -----to one file only can be declared inside that file.

- **Local (Page 158)**
- Global
- Private
- General

Question No: 22 (Marks: 1) - Please choose one
The use of do while loops should be -----

- **Avoided (Page 159)**
- encouraged
- practiced
- non of them

Question No: 23 (Marks: 1) - Please choose one
One of the causes of the portability issues is the order of ----- varies from one implementation to other.

- **Evaluation (Page 181)**
- numbers
- variables
- symbols

Question No: 24 (Marks: 1) - Please choose one
----- is a powerful technique that separates error-handling code from normal code.

- **Exception handling (Page 184)**
- Code handling
- variable handling
- pointer handling

Question No: 25 (Marks: 1) - Please choose one

The goal of testing is to expose ----- defects in a software system before it is put to use.

- **Latent (Page 193)**
- already present
- current
- runtime

Question No: 26 (Marks: 1) - Please choose one

Static analyzers are software tools for ----- processing.

- analysis text
- **source text (Page 211)**
- design text
- non of the given

Question No: 27 (Marks: 1) - Please choose one

The first bug was actually a moth, which flew through an open window and into one of the Mark -----'s relays.

- **II (Page 213)**
- I
- III
- IV

Question No: 28 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- **Compiler warnings. (Page 220)**

Question No: 29 (Marks: 1) - Please choose one

Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

- reason
- **disease (Page 224)**
- source
- non of the given

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Question No: 30 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- least difficult
- **most difficult (Page 226)**
- very easy
- easy



CS504- Software Engineering

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FINAL TERM EXAMINATION Spring 2010 CS504- Software Engineering - I (Session - 2)

Question No: 1 (Marks: 1) - Please choose one

The first step in any OOA process model is to _____

- ▶ build an object-relationship model
- ▶ define collaborations between objects
- ▶ **elicit customer requirements** (A PRACTITIONER'S APPROACH Page603)
- ▶ select a representation language

Question No: 2 (Marks: 1) - Please choose one

A necessary supplement to transform or transaction mapping needed to create a complete architectural design is _____.

- ▶ entity relationship diagrams
- ▶ the data dictionary
- ▶ **processing narratives for each module** (A PRACTITIONER'S APPROACH Page422)
- ▶ test cases for each module

Question No: 3 (Marks: 1) - Please choose one

What types of errors are missed by black-box testing and can be uncovered by white-box testing?

- ▶ behavioral errors
- ▶ **subtle logic errors** [Click here for detail](#)
- ▶ performance errors
- ▶ input error

Question No: 4 (Marks: 1) - Please choose one

Which test criteria should be applied in a phase of testing?

- ▶ functional validity
- ▶ interface integrity
- ▶ correctness
- ▶ **all of the given** (A PRACTITIONER'S APPROACH Page522)

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Question No: 5 (Marks: 1) - Please choose one

The hardest single part of building a software system is deciding precisely ----- to build.

▶ **what (Page 17)**

- ▶ How
- ▶ When
- ▶ Why

Question No: 6 (Marks: 1) - Please choose one

In sequence Diagrams objects are organized in a -----line

▶ **horizontal (Page 106)**

- ▶ vertical
- ▶ horizontal and vertical
- ▶ non of the above

Question No: 7 (Marks: 1) - Please choose one

Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 8 (Marks: 1) - Please choose one

Like analysis models, many different kinds of -----models are developed

▶ **Architectural (Page 126)**

- ▶ System
- ▶ Design
- ▶ Logical

Question No: 9 (Marks: 1) - Please choose one

Idea behind zero install architecture is to develop a system where no installation on the ----- is needed.

▶ **Client side (Page 130)**

- ▶ Server Side
- ▶ Client & Server Side
- ▶ Non of the all

Question No: 10 (Marks: 1) - Please choose one

The construction is used to avoid ----- errors.

▶ **compilation (Page 157)**

- ▶ runtime
- ▶ design time
- ▶ non of them

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Question No: 11 (Marks: 1) - Please choose one
All comments should be written in-----

- ▶ **English (Page 162)**
- ▶ French
- ▶ C++
- ▶ JAVA

Question No: 12 (Marks: 1) - Please choose one
One of the Guidelines to avoid common mistakes is to never use ----- except for declaration

- ▶ **, (Page 176)**
- ▶ ;
- ▶ =
- ▶ ||

Question No: 13 (Marks: 1) - Please choose one
The order in which bytes of one word are stored is ----- dependent

- ▶ **Hardware (Page 181)**
- ▶ Software
- ▶ language
- ▶ system

Question No: 14 (Marks: 1) - Please choose one
Verification and validation are the processes in which we check a product against its ----- and the ----
----- of the users who will be using it

- ▶ **specifications, expectations (Page 192)**
- ▶ statements, expectations
- ▶ specifications , arguments
- ▶ statements, arguments

Question No: 15 (Marks: 1) - Please choose one
Two tests are considered to be equivalent if it is believed that: if one discovers a defect, the other probably will too, and if one does not discover a defect, -----.

- ▶ the other probably may
- ▶ non of them
- ▶ **the other probably won't either (Page 199)**
- ▶ the other probably will

Question No: 16 (Marks: 1) - Please choose one

It was lady named ----- who actually coin the term “bug” for the fiest time.

- ▶ Elisay Chistopher
- ▶ **Admiral Grace Hopper (Page 213)**
- ▶ Ana Nicholson
- ▶ Jane Hopper

Question No: 17 (Marks: 1) - Please choose one

**The first “bug” was actually a moth, which flew through an open window and into one of the Mark -----
--’s relays.**

- ▶ **II (Page 213)**
- ▶ I
- ▶ III
- ▶ IV

Question No: 18 (Marks: 1) - Please choose one

Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but the flow of program takes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 19 (Marks: 1) - Please choose one

First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

Question No: 20 (Marks: 1) - Please choose one

Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122)**
- ▶ 4
- ▶ 5

Question No: 21 (Marks: 1) - Please choose one

Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

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Question No: 22 (Marks: 1) - Please choose one
Source files can have the extension -----

- ▶ `c++ .`
- ▶ `.C`
- ▶ `.cpp`
- ▶ **all of the given (Page 155)**

Question No: 23 (Marks: 1) - Please choose one
Be very careful when you use functions with side effects – functions that change the values of the -----

- ▶ **parameters (Page 176)**
- ▶ variables
- ▶ constants
- ▶ None of given

Question No: 24 (Marks: 1) - Please choose one
Which of the following is not a characteristic of software?

- ▶ **Software is tangible**
- ▶ A change to a piece of code may implicitly affect the functions of the rest of the code.
- ▶ Software is configurable.
- ▶ Software does not wear and tear.

Question No: 25 (Marks: 1) - Please choose one
Which of the following is a fact finding method?

- ▶ Site visits
- ▶ **Prototyping**
- ▶ Study of similar systems
- ▶ All of given

Seven common fact-finding methods (Sampling, Research, Observation, Questionnaires, Interviews, Prototyping, Joint Requirements Planning) are introduced as a means to discover requirements.

Question No: 26 (Marks: 1) - Please choose one
The statements given below are associated with system development, testing and maintenance. Identify the correct statement from among them:

- ▶ Some of the activities in the implementation phase are building individual system components, writing of programs and development of user interfaces.
- ▶ The post implementation review is performed to see that the computer system is working.
- ▶ None of Given
- ▶ System development phase consists of a development phase and an implementation phase.

FINAL TERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** http://highered.mcgraw-hill.com/sites/0072853182/student_view0/chapter10/multiple_choice_quiz.html

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 3 (Marks: 1) - Please choose one

Test cases should be designed long before testing begins.

- ▶ **True** (APRACTITIONER'S APPROACH Page 467)
- ▶ False

Question No: 4 (Marks: 1) - Please choose one

Which of the following are characteristics of testable software?

- ▶ observability
- ▶ simplicity
- ▶ stability
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 469)

Question No: 5 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one

By collecting software metrics and making use of existing software reliability models it is possible to develop meaningful guidelines for determining when software testing is done.

- ▶ **True** [Click here for Detail](#)
- ▶ False

Question No: 7 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 8 (Marks: 1) - Please choose one

A change becomes ----- because of close presence of data and functions

- ▶ **Localized** (Page 81)
- ▶ Private
- ▶ Global
- ▶ Accessible

Question No: 9 (Marks: 1) - Please choose one

Requirement engineering mainly deals with the ----- of the system

- ▶ **definition phase** (Page 16)
- ▶ development phase
- ▶ maintenance
- ▶ non of the above

Question No: 10 (Marks: 1) - Please choose one

40-60% of all defects found in software projects can be traced back to poor -----

- ▶ **Requirements** (Page 17)
- ▶ Design
- ▶ Coding
- ▶ Testing

Question No: 11 (Marks: 1) - Please choose one

In the N-Tier Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance** (Page 131)
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

Question No: 12 (Marks: 1) - Please choose one

MVC pattern was based on the ----- pattern.

- ▶ **Observer** (Page 140)
- ▶ Structural
- ▶ Behavioral
- ▶ Non of them

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Question No: 13 (Marks: 1) - Please choose one

Classes should be declared in individual header files with the file name matching the ----- name.

- ▶ **class (Page 155)**
- ▶ method
- ▶ object
- ▶ non of the all

Question No: 14 (Marks: 1) - Please choose one

Unit testing is roughly equivalent to ----- testing for hardware in which each chip is tested thoroughly after manufacturing

- ▶ Circuit level
- ▶ **Chip Level (Page 207)**
- ▶ component level
- ▶ system level

Question No: 15 (Marks: 1) - Please choose one

Software should be tested more like hardware, with Built-in self testing: such that each unit can be tested -----

- ▶ freely
- ▶ **independently (Page 207)**
- ▶ dependtly
- ▶ completely

Question No: 16 (Marks: 1) - Please choose one

A system ----- is the period in which tremendous pressure is on developers end to fix the problem and make the system running again

- ▶ Uptime
- ▶ **Downtime (Page 214)**
- ▶ Currentime
- ▶ futuretimr

Question No: 17 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- ▶ Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- ▶ If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- ▶ Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- ▶ **Compiler warnings. (Page 220)**

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Question No: 18 (Marks: 1) - Please choose one
Software architecture elements are further divided into categories which in total are -----

- ▶ 2
- ▶ **3 (Page 122) rep**
- ▶ 4
- ▶ 5

Question No: 19 (Marks: 1) - Please choose one
Three tier architecture contains ----- layers

- ▶ Presentation
- ▶ Application
- ▶ Database
- ▶ **All of the above (Page 131)**

Question No: 20 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 21 (Marks: 1) - Please choose one
----- are two important tools that can help in managing and mastering the complexity of a program.

- ▶ **abstraction and encapsulation (Page 170)**
- ▶ abstraction and Inheritance
- ▶ abstraction and Polymorphism
- ▶ None of given

Question No: 22 (Marks: 1) - Please choose one
Which of the following is a/are tool used in requirement analysis?

- ▶ Flow Graphs
- ▶ **Data Flow Diagrams (not sure)**
- ▶ Activity Networks
- ▶ Module Dependency Diagrams

Question No: 23 (Marks: 1) - Please choose one

Consider the following comment. “The software which I bought won’t run on windows and when it runs I can’t use WORD at the same time”. Which of the following do you think are violated by the newly bought software?

- ▶ dependability, interchangeability
- ▶ **platform independence, interoperability**
- ▶ reliability, dependency
- ▶ interoperability, reliability

Question No: 24 (Marks: 1) - Please choose one

..... is a diagramming technique used to identify the types of objects in the system and the static relationships that exist among them?

- ▶ Class Diagram
- ▶ Document flow diagrams
- ▶ Data flow diagrams
- ▶ **Flow charts**

Question No: 25 (Marks: 1) - Please choose one

Which of the following interaction style best suit the design of an interface for visually impaired users?

- ▶ **direct manipulation (A PRACTITIONER’S APPROACH Page 469)**
- ▶ direct manipulation
- ▶ natural language
- ▶ command line

Question No: 26 (Marks: 1) - Please choose one

Which of the following testing involve purely black box testing?

- ▶ unit testing, beta testing
- ▶ acceptance testing, interface testing
- ▶ beta testing, acceptance testing
- ▶ **integration testing, interface testing**

**FINAL TERM EXAMINATION
Spring 2010**

Question No: 1 (Marks: 1) - Please choose one

What are the three generic phases of software engineering?

- ▶ **definition, development, support (A PRACTITIONER’S APPROACH Page 96)**
- ▶ what, how, where
- ▶ programming, debugging, maintenance
- ▶ analysis, design, testing

Question No: 2 (Marks: 1) - Please choose one

In the context of requirements analysis, partitioning results in the elaboration of data, function, or behavior.

- ▶ **True** [Click here for detail](#)
- ▶ False

Question No: 3 (Marks: 1) - Please choose one

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 4 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one

In transaction mapping the first level factoring results in the_____

- ▶ creation of a CFD
- ▶ **derivation of the control hierarchy** [Click here for detail](#)
- ▶ distribution of worker modules
- ▶ refinement of the module view

Question No: 6 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False (Page 150)**

Question No: 7 (Marks: 1) - Please choose one

Class variables should be declared public. This concept violates which of the following.

- ▶ Information hiding
- ▶ Encapsulation
- ▶ **Information hiding and Encapsulation (Page 158)**
- ▶ None of given

Question No: 8 (Marks: 1) - Please choose one

Real-time applications add a new and potentially difficult element to the testing mix

- ▶ performance
- ▶ reliability
- ▶ security
- ▶ **time (Page 498)**

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Question No: 9 (Marks: 1) - Please choose one
Top-down integration testing has as it's major advantage(s) that

- ▶ low level modules never need testing
- ▶ **major decision points are tested early** [Click here for detail](#)
- ▶ no stubs need to be written
- ▶ none of the given

Question No: 10 (Marks: 1) - Please choose one
Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 11 (Marks: 1) - Please choose one
isAuthorized, assess Performance,get item for UPC, get cashier for number, are the examples of

- ▶ **Services (Page 102)**
- ▶ Attributes
- ▶ Links
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one
the *development* view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 13 (Marks: 1) - Please choose one
----- being the first pure Object Oriented language in which observer pattern was used in implementing its Model View Controller

- ▶ **Smalltalk (Page 140)**
- ▶ PASCAL
- ▶ JAVA
- ▶ C++

Question No: 14 (Marks: 1) - Please choose one
Hungarian Notation was first discussed by Charles Simonyi of-----

- ▶ **Microsoft. (Page 149)**
- ▶ Oracle
- ▶ Apple Macintosh
- ▶ Non of the all

Question No: 15 (Marks: 1) - Please choose one

The language does not specify whether ----- is signed or unsigned.

- ▶ **char (Page 181)**
- ▶ integer
- ▶ double
- ▶ constant

Question No: 16 (Marks: 1) - Please choose one

A number of invisible execution paths can exist in simple code in a language that allows -----

- ▶ **exceptions (Page 185)**
- ▶ defects
- ▶ errors
- ▶ all of them

Question No: 17 (Marks: 1) - Please choose one

Bugs Fixing is done by which of the teams in Software Development lifecycle?

- ▶ **Development Team (Page 196)**
- ▶ Testing Team
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 18 (Marks: 1) - Please choose one

Software Bugs have multiple names, Which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 19 (Marks: 1) - Please choose one

Symptoms of logical errors are -----

- ▶ code is misbehaving
- ▶ The program doesn't crash, but akes odd branches through the code.
- ▶ Results are the opposite
- ▶ Output looks strange,
- ▶ **all of the given (Page 218)**

Question No: 20 (Marks: 1) - Please choose one

First hand accounts of the problem are always useful in Debugging process.

- ▶ **True (Page 225)**
- ▶ False

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Question No: 21 (Marks: 1) - Please choose one
In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 22 (Marks: 1) - Please choose one
Establishing responsibilities for objects includes

- ▶ Generalization Relationships
- ▶ Specialization Relationships
- ▶ all of the above
- ▶ **identifying Association relationships (Page 101)**

Question No: 23 (Marks: 1) - Please choose one
Stakeholders are different people who would be interested in the -----

- ▶ **Software (Page 24)**
- ▶ System
- ▶ Product
- ▶ All of the given

Question No: 24 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ None of the given

Question No: 25 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 26 (Marks: 1) - Please choose one
Which of the following is an/are advantage(s) of object oriented analysis & design over structured system analysis & design?

- ▶ Ease of modeling real world events
- ▶ Reusability
- ▶ Maintainability
- ▶ **All of given [Click here for detail](#)**

FINAL TERM EXAMINATION SPRING 2010

Question No: 1 (Marks: 1) - Please choose one

The two main documents produced during this phase are Requirement Statement and Requirement Specification. They are also called Requirement Definition and -----

▶ **Functional Specification (Page 25)**

- ▶ Mathematical specification
- ▶ System Specification
- ▶ None of the given

Question No: 2 (Marks: 1) - Please choose one

A decision table should be used _____

- ▶ To document all conditional statements
- ▶ To guide the development of the project management plan
- ▶ Only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component [Click here for detail](#)**

Question No: 3 (Marks: 1) - Please choose one

Which of the following is a/are tool used in requirement analysis?

- ▶ Flow Graphs
- ▶ **Data Flow Diagrams (not sure)**
- ▶ Activity Networks
- ▶ Module Dependency Diagrams

Question No: 4 (Marks: 1) - Please choose one

MVC stands for -----

- ▶ **Model View Controller (Page 140)**
- ▶ Modern View Center
- ▶ Model View Center
- ▶ Modern View Controller

Question No: 5 (Marks: 1) - Please choose one

A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ Non of the above

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Question No: 6 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- ▶ least difficult
- ▶ **most difficult (Page 226)**
- ▶ very easy
- ▶ easy

Question No: 7 (Marks: 1) - Please choose one

In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False**

Question No: 8 (Marks: 1) - Please choose one

Association is a type _____ of relation

- ▶ **Weak (OOP, 49)**
- ▶ Stronger
- ▶ Normal
- ▶ None of above

Question No: 9 (Marks: 1) - Please choose one

Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False (Page 150)**

Question No: 10 (Marks: 1) - Please choose one

Bugs that won't (almost random) are the ----- to deal with.

- ▶ **stand still (Page 226)**
- ▶ Dynamic
- ▶ Static
- ▶ None of above

Question No: 11 (Marks: 1) - Please choose one

CRUD include following:-

- ▶ Creat
- ▶ Update
- ▶ Read
- ▶ **All of above (Page 53)**

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Question No: 12 (Marks: 1) - Please choose one

Bugs Finding is done by which of the teams in Software Development lifecycle?

- ▶ Development Team
- ▶ **Testing Team (Page 196)**
- ▶ Analysis & Design Team
- ▶ Process Team

Question No: 13 (Marks: 1) - Please choose one

Software Bugs have multiple names, which one of the below is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 14 (Marks: 1) - Please choose one

In the debugging process a stack trace is a very useful tool.

- ▶ **True (Page 226)**
- ▶ False

Question No: 15 (Marks: 1) - Please choose one

A ----- is a code that explains itself without the need of comments and extraneous documentation

- ▶ **Self documenting code (Page 147)**
- ▶ Self telling Code
- ▶ Self Documenting Design
- ▶ None of the given

Question No: 16 (Marks: 1) - Please choose one

Project ----- defines the concept and range of the proposed solution, and limitations identify certain capabilities that the product will not include

- ▶ **Scope (Page 30)**
- ▶ Agreement
- ▶ Plan
- ▶ None of the given

Question No: 17 (Marks: 1) - Please choose one

In the N-Tire Architecture the idea is to enhance scalability and ----- by distributing both the data and the application using multiple server machines.

- ▶ **Performance (Page 131)**
- ▶ Efficiency
- ▶ Usability
- ▶ non of the all

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Question No: 18 (Marks: 1)

The cyclomatic complexity metric provides the designer with information regarding the number of

- ▶ Cycles in the program
- ▶ Errors in the program
- ▶ **Independent logic paths in the program** [Click here for detail](#)
- ▶ Statements in the program

Question No: 19 (Marks: 1)

Which of the followings is not a testing type?

- ▶ Subsystem testing
- ▶ Alpha testing
- ▶ Beta Testing
- ▶ **Gamma Testing** (Page 198)

Question No: 20 (Marks: 1)

Which of the items listed below is not one of the software engineering layers?

- ▶ Process
- ▶ **Manufacturing** [Click here for detail](#)
- ▶ Methods
- ▶ Tools

Question No: 21 (Marks: 1)

Which piece of code is self-documented?

- ▶ if (x==0) // this is the case when we are allocating a new number
- ▶ if (AllocFlag == 0)
- ▶ **If (AllocFlag == NEW_NUMBER)** (Page 148)
- ▶ None of the given

FINALTERM EXAMINATION
Spring 2010

Question No: 1 (Marks: 1) - Please choose one

UML (unified modeling language) analysis modeling focuses on the _____ .

- ▶ behavioral model and environment model.
- ▶ behavioral model and implementation model.
- ▶ user model and environmental model
- ▶ **user model and structural model** (A PRACTITIONER'S APPROACH Page 604)

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Question No: 2 (Marks: 1) - Please choose one
What makes requirements elicitation difficult?

- ▶ bounding scope
- ▶ understanding user needs
- ▶ requirements volatility
- ▶ **all of the above** (APRACTITIONER'S APPROACH Page 285)

Question No: 3 (Marks: 1) - Please choose one
In the architecture trade-off analysis method the architectural style should be described using the

- ▶ module view
- ▶ process view
- ▶ **all of the given** (APRACTITIONER'S APPROACH Page 403)
- ▶ data flow view

Question No: 4 (Marks: 1) - Please choose one
In refining the DFD during transaction mapping it is unnecessary to create a PSPEC since only the CSPEC is relevant to this type of architectural style.

- ▶ True
- ▶ **False** [click here for detail](#)

Question No: 5 (Marks: 1) - Please choose one
A decision table should be used_____

- ▶ to document all conditional statements
- ▶ to guide the development of the project management plan
- ▶ only when building an expert system
- ▶ **when a complex set of conditions and actions appears in a component** [Click here for detail](#)

Question No: 6 (Marks: 1) - Please choose one
Variable names must be in mixed case starting with upper case.

- ▶ True
- ▶ **False** (Page 150)

Question No: 7 (Marks: 1) - Please choose one
Which of these are objectives for software testing?

- ▶ determine the productivity of programmers
- ▶ eliminate the need for future program maintenance
- ▶ eliminate every error prior to release
- ▶ **uncover software errors** (APRACTITIONER'S APPROACH Page 467)

Question No: 8 (Marks: 1) - Please choose one

Comparison testing is typically done to test two competing products as part of customer market analysis prior to product release.

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 9 (Marks: 1) - Please choose one

In software quality assurance work there is no difference between software verification and software validation

- ▶ True
- ▶ **False** [Click here for detail](#)

Question No: 10 (Marks: 1) - Please choose one

Top-down integration testing has as its major advantage(s) that

- ▶ low level modules never need testing
- ▶ major decision points are tested early
- ▶ **no stubs need to be written** [Click here for detail](#)
- ▶ none of the given

Question No: 11 (Marks: 1) - Please choose one

Rooko mut jane do depicts one of risks associated with inadequate requirements gathering, the name of that risk is -----

- ▶ **Ambiguous requirements** (Page 20)
- ▶ Creeping Requirements
- ▶ Minimal Specification
- ▶ Non of the above

Question No: 12 (Marks: 1) - Please choose one

Interaction Diagrams depict the ----- Behavior of the system

- ▶ Static
- ▶ **Dynamic** (Page 106)
- ▶ Active
- ▶ Non of the above

Question No: 13 (Marks: 1) - Please choose one

In Sequence Diagrams events are organized in a-----time line

- ▶ Vertical
- ▶ **Horizontal** (Page 106)
- ▶ Vertical & Horizontal
- ▶ Non of the above

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Question No: 14 (Marks: 1) - Please choose one
the development view describes the -----organization of the software in its development environment,

- ▶ **Static (Page 122)**
- ▶ Dynamic
- ▶ Still
- ▶ Static & Dynamic

Question No: 15 (Marks: 1) - Please choose one
Every view is potentially Hierarchical in this regard which of the view are Hierarchical ?

- ▶ Functionl View
- ▶ Development View
- ▶ *Concurrency view*
- ▶ **All of given (Page 125)**

Question No: 16 (Marks: 1) - Please choose one
object-oriented framework that is a set of cooperative classes that make up reusable ----- of a system

- ▶ Code
- ▶ **Design (Page 138)**
- ▶ Analysis
- ▶ non of the all

Question No: 17 (Marks: 1) - Please choose one
When planning for performance, one should always remember the ----- rule

- ▶ **80/20 (Page 177)**
- ▶ 20/80
- ▶ 80/22
- ▶ 80/90

Question No: 18 (Marks: 1) - Please choose one
In order to make a code more portable, Instead of using vendor specific language extensions, use -----
- as much as possible

- ▶ **STL (Page 179)**
- ▶ ANSI
- ▶ ISO
- ▶ CMMI

Question No: 19 (Marks: 1) - Please choose one
Performance & Usability are examples of ----- requirements

- ▶ Business

- ▶ Functionail
- ▶ **Non-Functionail (Page 39)**
- ▶ User

Question No: 20 (Marks: 1) - Please choose one
Static analyzers are software tools for ----- processing.

- ▶ analysis text
- ▶ **source text (Page 211)**
- ▶ design text
- ▶ non of the given

Question No: 21 (Marks: 1) - Please choose one
Software Bugs have multiple names, Which one of the belw is not the name of Software Bugs -----

- ▶ Bugs
- ▶ Defects
- ▶ Errors
- ▶ **Mistakes (Page 213)**

Question No: 22 (Marks: 1) - Please choose one
According to a survey, when a software application is in the maintenance phase, ----- of its lifecycle cost is attributed towards the defects which are found in the software application after installation

- ▶ **20 % (Page 214)**
- ▶ 25 %
- ▶ 30%
- ▶ 35%

Question No: 23 (Marks: 1) - Please choose one
Bugs that won't "-----" (almost random) are the most difficult to deal with.

- ▶ **stand still (Page 226)**
- ▶ dynamic
- ▶ running
- ▶ stand tall

Question No: 24 (Marks: 1) - Please choose one
1. Variables should be initialized where they are declared and they should be declared in the ----- scope possible.

- ▶ **Smallest (Page 158)**
- ▶ largest
- ▶ medium
- ▶ None of the given

Question No: 25 (Marks: 1) - Please choose one

If you are initializing a variable at the time of declaration, do not declare another ----- in the same statement.

- ▶ **variable (Page 176)**
- ▶ object
- ▶ class
- ▶ None of given

Question No: 26 (Marks: 1) - Please choose one

During Requirement Engineering process which of the following is/are document(s) used for fact finding?

- ▶ Company's employee list
- ▶ Samples of the company databases
- ▶ The company's mission statement and plan
- ▶ **All of given**

**FINAL TERM EXAMINATION
Fall 2008**

Question No: 1 (Marks: 1) - Please choose one

Object-oriented domain analysis is concerned with the identification and specification of reusable capabilities within an application domain.

- **True [Click here for detail](#)**
- False

Question No: 2 (Marks: 1) - Please choose one

Fourth generation techniques

- Allow software to be developed without any testing.
- Eliminate the need for costly requirements gathering activities.
- **Can reduce the time required to develop software.**

(APRACTITIONER'S APPROACH Page 73)

- Are best used by non-programmers to build small systems.

Question No: 3 (Marks: 1) - Please choose one

Data design actually begins during the creation of the analysis model, not the architectural model.

- **True (APRACTITIONER'S APPROACH Page 397)**
- False

Question No: 4 (Marks: 1) - Please choose one

The states shown in a state transition diagram do not necessarily correspond to the processes shown in a control flow diagram for the same system.

- **True** (APRACTITIONER'S APPROACH Page 397)
- False

Question No: 5 (Marks: 1) - Please choose one

The criteria used to assess the quality of an architectural design should be based on system

- **accessibility and reliability** (APRACTITIONER'S APPROACH Page 404)
- data and control
- functionality
- implementation details

Question No: 6 (Marks: 1) - Please choose one

A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

- number and size of components
- **flow dependencies and sharing dependencies** (APRACTITIONER'S APPROACH Page 406)
- size and cost
- none of the given

Question No: 7 (Marks: 1) - Please choose one

The three basic principles that guide maintainability are: simplicity, clarity, and _____ .

- **Generality** (Page 146)
- Reliability
- All of the given choices
- None of the Given choices

Question No: 8 (Marks: 1) - Please choose one

In order to make a program self documented a number of attributes required. Which one is the attribute/s of self documented program

- **All of the given choices** (Page 147)
- Size of each function
- Choice of variable
- Modularity

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Question No: 9 (Marks: 1) - Please choose one

Floating point constants should always be written with decimal point and at least

- **one decimal (Page 161)**
- two decimal
- three decimal
- none of the given

Question No: 10 (Marks: 1) - Please choose one

The code becomes self explanatory with the help of proper use of parentheses. Select the right one.

- `leapYear = year % 4 == 0 && year % 100 != 0 || year % 400 == 0 ;`
- `leapYear = ((year % 4 == 0) && (year % 100 != 0) || ((year % 400 == 0)));`
- **`leapYear = ((year % 4 == 0) && (year % 100 != 0)) || (year % 400 == 0);` (Page 164)**
- `leapYear = (year % 4 == 0) && (year % 100 != 0) || (year % 400 == 0);`
- none of the given options

Question No: 11 (Marks: 1) - Please choose one

Graph-based testing methods can only be used for object-oriented systems

- True
- **False** [Click here for detail](#)

Question No: 12 (Marks: 1) - Please choose one

Configuration reviews are not needed if regression testing has been rigorously applied during software integration.

- True
- **False** [Click here for Detail](#)

Question No: 13 (Marks: 1) - Please choose one

A class is a ----- of objects

- **Template (Page 85)**
- Stereotype
- Collection
- Non of the above

Question No: 14 (Marks: 1) - Please choose one

A public Interface provides a way for with other Classes.

- **Communication**
- Accessibility
- Reaching
- All of the above

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Question No: 15 (Marks: 1) - Please choose one
Flow Charts represents

- **sequence Activity (Page 50)**
- random activity
- parallel activity
- non of the above

Question No: 16 (Marks: 1) - Please choose one
Software architecture defines the high level structure of the software by putting together a number of architectural ----- in an organized fashion.

- **Elements (Page 122)**
- parts
- components
- non of the all

Question No: 17 (Marks: 1) - Please choose one
Patterns are devices that allow programs to share knowledge about their -----.

- **Design (Page 137)**
- Code
- Analysis
- Non of the all

Question No: 18 (Marks: 1) - Please choose one
MVC stands for -----

- **Model View Controller (Page 140)**
- Modern View Center
- Model View Center
- Modern View Controller

Question No: 19 (Marks: 1) - Please choose one
A ----- is a code that explains itself without the need of comments and extraneous documentation

- **Self documenting code (Page 147)**
- Self telling Code
- Self Documenting Design
- Non of the them

Question No: 20 (Marks: 1) - Please choose one
Type conversions must always be done -----

- **Explicitly (Page 158)**
- implicitly
- simultaneously
- non of them

Question No: 21 (Marks: 1) - Please choose one
Types that are -----to one file only can be declared inside that file.

- **Local (Page 158)**
- Global
- Private
- General

Question No: 22 (Marks: 1) - Please choose one
The use of do while loops should be -----

- **Avoided (Page 159)**
- encouraged
- practiced
- non of them

Question No: 23 (Marks: 1) - Please choose one
One of the causes of the portability issues is the order of ----- varies from one implementation to other.

- **Evaluation (Page 181)**
- numbers
- variables
- symbols

Question No: 24 (Marks: 1) - Please choose one
----- is a powerful technique that separates error-handling code from normal code.

- **Exception handling (Page 184)**
- Code handling
- variable handling
- pointer handling

Question No: 25 (Marks: 1) - Please choose one

The goal of testing is to expose ----- defects in a software system before it is put to use.

- **Latent (Page 193)**
- already present
- current
- runtime

Question No: 26 (Marks: 1) - Please choose one

Static analyzers are software tools for ----- processing.

- analysis text
- **source text (Page 211)**
- design text
- non of the given

Question No: 27 (Marks: 1) - Please choose one

The first bug was actually a moth, which flew through an open window and into one of the Mark -----'s relays.

- **II (Page 213)**
- I
- III
- IV

Question No: 28 (Marks: 1) - Please choose one

Which one of the given below is not a symptom of memory overrun?

- Program crashes quite regularly after a given routine is called, that routine should be examined for a possible overrun condition.
- If the routine in question does not appear to have any such problem the most likely cause is that another routine, called in the prior sequence, has already trashed variables or memory blocks.
- Checking the trace log of the called routines leading up to one with the problem will often show up the error.
- **Compiler warnings. (Page 220)**

Question No: 29 (Marks: 1) - Please choose one

Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

- reason
- **disease (Page 224)**
- source
- non of the given

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Studies (IEMS) Samundari**

Question No: 30 (Marks: 1) - Please choose one

Bugs that won't "stand still" (almost random) are the ----- to deal with.

- least difficult
- **most difficult (Page 226)**
- very easy
- easy



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For FINAL TERM Exams

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VU-Sahawal & Hasilpur

1. In a, each program module is represented by a rectangular box.

Use case diagram 33

Class diagram

Document flow diagram

Data flow diagram

2. is a diagramming technique used to identify the types of objects in the system and the static relationships that exist among them?

Class Diagram

Document flow diagrams

Data flow diagrams

Flow charts

3. Which one is NOT a type of messages which Sequence Diagrams Depict _____

Synchronous

Synchronous

Create

Update 108

4. Identifying Whole-Part structures (Aggregations) means, what are my -----

Components 95

Structures

Modules

Interaction Protocols

5. The design process for identifying the sub-systems making up a system and the framework for sub-system control and communication is:

Architectural Design 115

Interface Design

Component Design

Data Design

6. A complex System evolves from a

Smaller system

Simpler system 69

Bigger system

Medium system

7. A context diagram _____

Describes the context dependencies of a system



Is a DFD which gives an overview of the system 31

Is a detailed description of a system?

Is not used in drawing a detailed DFD

8. When measure of independence of a module or component is low to the other,

How would changes in one component have effect on other component?

No

Low 71

High

Equal

9. What is meant by the term 'software crisis'?

Ability to deliver software on time with good quality

A situation in which experienced developers leave the company

Inability of new software to inter-operate with existing software

A situation in which large scale software projects took more time and budget than was planned

10. Which is not included in test criteria applied in a phase of testing?

Functional validity

Interface integrity

Correctness

Programing Logic

11. For inspections, ----- are prepared that contain information regarding defects.

Tables

Checklists 210

Lists

Frames

12. Static analyzers are software tools for ----- processing.

Analysis text

Source text 211

Design text

Maintenance Text

13. Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

Target

Reason

Disease 224

Source

14. What factor has no precipitation in more sophisticated and complex computer-based systems?

Vast use of personal computers.

Vast increases in computer memory and storage capacity.

Greater variety of exotic input/output options.

Profound changes in computer architectures.

15. Software Bugs have multiple names. Which one of the below is not the name of Software Bugs?

Bugs

Defects

Errors

Mistakes 213

16. Unit testing is roughly equivalent to _____ testing for hardware in which each chip is tested thoroughly after manufacturing.



Circuit level

Chip Level 207

Component level

System level

17. Equivalence _____ help you in designing test cases to test the system effectively and efficiently.

Functions

Classes 202

Objects

Interfaces

18- _____ are used to describe flow of data or control in an application.

Code structures

String matching.

Paths

Flow graphs 203

19. Writing test cases and generating test data are processes that demand _____ building capabilities.

Domain

System

Scenario 198

Code

20. The raising of the imaginary error flag is simply called raising or _____ an error.

Throwing 187

Sending

Casting

Handling

21. _____ requirements are often called product features.

Functional

Business 22

User

Non-functional

22. Many compilers limit the maximum number of bits in the bit field to the size of a(n)

_____.

Integer 183

Float

Character

Double

23. In Java, ">>" is used for _____ shift and ">>>" for _____ shift.

Arithmetic, Logical 181

Mathematical, Logical

Incremental, Arithmetic

Logical, Arithmetic

24. When large amount of data is to be shared, repository model is used. This model has been extensively used in the _____ based application.

Mainframe 130

Super Computers

Personal Computers

Real time



25. There are four basic coding structures: sequence, if statement, case statement, and _____.

For loop

While loop 203

Switch statement

Logical operations

26. _____ is only a reference for defining protocols and designing and implementing systems developed by different parties.

OSI model

Reference architecture 137

Layered architecture

N-tier architecture

27. The pattern movement became very quiet until _____ when patterns appeared again at OOPSLA conference.

1987 141

1988

1962

1995

28. STL Stands for _____.

Standard Temporary Line

Standard Temporary Library

Standard Template Library 141

Standard Type Link

29. MVC stands for _____.

Modern View Center

Model View Controller 143

Modern View Controller

Model View Center

30. _____ ensures that a class only has one instance and provides a global point of access to it.

Singleton Pattern 145

Observer Pattern

Behavioral Pattern

Joint Pattern

31. Which design pattern provides a unified interface to a set of interfaces in a sub-system?

Façade 146

Singleton

Observer

Joint

32. Testing activities require destructive instincts in _____ for the purpose of breaking system to discover loopholes into its functionality.

Bug Fixers

Tester 198

Developer

Requirement Engineer

33. Camel Case is now the official convention for file names and identifiers in the _____ programming language.

C#

C++

Java 152



Visual Basic.Net

34. In presence of _____ bug in a program, the results are the opposite of what is expected.

Memory Leak

Memory Over-runs

Syntax Error

Logical Error 221

35. Split lines occur when a statement exceed the _____ column limit.

80 158

90

95

85

36. Identifier names play a significant role in enhancing the _____ of a program.

Writability

Readability 151

Reliability

Usability

37. "is" prefix should be used for _____ variables and methods.

Static

General

Boolean 155

Constant

38. Comments should be indented relative to their position in the _____.

Code 165

Design

Analysis

Requirements

39. Modularity is a tool that can help us in _____ the size of individual functions.

Stabilizing

Reducing 173

Increasing

Strengthening

40. When planning for performance, one should always remember the _____ rule.

80/20 180

70/20

60/20

100/20

41. Suppose you are working as a software engineer involved in the development of an e-commerce website.

What are the 2 most important characteristics your software must have? 2 marks

42. Name any two standards which are being used by C/C++ for writing programs. 2 marks

43. Which other technique along with testing should we use for increasing the effectiveness of defect removal efficiency in a project? 2marks

44. What do you understand by term "self-documenting code"?2 marks

45. Briefly describe a business process diagram (at least 3 lines): 3marks

46. How does software differ from the artifacts produced by other engineering disciplines? 3 marks

47. What is Exception handling? 3marks

48. In which scenario, short circuiting is used? 3marks

49. Rewrite the following code by following General naming conventions for C++



- 1) int fileprefix;
- 2) const int max_iterations;
- 3) int getmaxiterations() { ... }
- 4) template<class t>
- 5) private int length; 05 marks

50. "A manufacturing company assembles the fans. For this purpose it purchases the raw material containing wires, motors, wings, and magnets. It then assembles the fans from these products".

From above case study, identify different objects that, you think, should be present in final implementation of system.

Note: you can use any methodology to identify the objects. 5marks

51. Discuss the importance of software debugging. 5marks

52. Exceptions do increase the code complexity. Explain this with the help of an example. 5marks

1. Which of the items listed below is NOT one of the software engineering layers?

Tools

Process

Manufacturing

Methods

02. Which of the following is a non-functional requirement of a website which sells songs?

A catalogue of the stock needs to be available for the users to choose from

Customer information should be retained to allow future transactions easier

Users should be able to choose from a set of different languages for the interface

Time taken to download songs in the catalogue should not irritate users

03. The state transition diagram _____

Depicts relationships between data objects

Depicts functions that transform the data flow

Indicates how data are transformed by the system

Indicates system reactions to external events

04. Control flow diagrams are:

Needed to model event driven systems

Required for all systems

Used in place of data flow diagrams

Useful for modeling user interfaces

05. Prototyping _____

Ensures getting the design right the first time

Is the execution of the standard systems development cycle using CASE tools.

Is used to verify if a key process is feasible

Involves an iterative development process with minimum end use involvement.

06. Identifying Whole-Part structures (Aggregations) means, what are my -----

Components

Structures 98

Modules

Interaction Protocols

07. Software architecture is "The _____ of the components of a program/system, their interrelationships, and principles and guidelines governing their design and evolution over time".

Combination

Collection



Structure 120

Unification

08. The object-behavior model indicates how the system _____

Functions in the operating environment

Objects collaborate with one another

Responds to external stimuli

Responds to internal stimuli

09. Perry and Wolfe proposed the following formula for software architecture:

Software architecture = {Forms, Rationale}

Software architecture = {Elements, Forms, Rationale} 125

Software architecture = {Parts, Rationale}

Software architecture = {Parts, Elements}

10. Repository model also provides the ----- view of the system.

Global 130

Local

General

Private

11. In the case of zero-install, the network environment is used to ____ server side processing by adding a number of servers which share processing load.

Distribute 133

Centralize

Shift

De-Synchronize

12. Requirement Statement and Requirement Specification are also called Requirement

Definition and _____

Functional Specification 28

Mathematical specification

System Specification

Cost Specification

13. Which of the following is not a fundamental structured programming construct?

Recursion

Condition

Repetition

Sequence

14. For equivalence partitions, we divide the problem in ----- obvious categories of equal strings

4

3

2 202

5

15. Which is not included in test criteria applied in a phase of testing?

Functional validity

Interface integrity

Correctness

Programming Logic

16. Static analyzers are software tools for ----- processing.

Analysis text

Source text 214

Design text

Maintenance Text



17. The first "bug" was actually a moth, which flew through an open window and into one of the Mark ----- 's relays.

II 216

I

III

IV

18. Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

Target

Reason

Disease

Source

19. Bugs Fixing is done by which of the teams in Software Development lifecycle?

Development Team

Testing Team not sure

Analysis & Design Team

Process Team

20. Which of the following testing involve purely black box testing?

Unit testing, Beta testing

Acceptance testing, Interface testing

Beta testing, Acceptance testing

Integration testing, Interface testing

21. A memory leak bug is one in which memory is somehow allocated from either the operating system or an ----- "pool", but never deallocated when the memory is finished being used.

External memory

Mixed memory

Internal Memory 219

Mutually exclusive memory

22. Equivalence _____ help you in designing test cases to test the system effectively and efficiently.

Functions

Classes 202

Objects

Interfaces

23. _____ are used to describe flow of data or control in an application.

Code structures

String matchings

Paths

Flow graphs 203

24. _____ requirements are often called product features.

Functional

Business

User

Non-functional

25. In Java, ">>" is used for _____ shift and ">>>" for _____ shift.

Arithmetic, Logical

Mathematical, Logical

Incremental, Arithmetic

Logical, Arithmetic



26. When large amount of data is to be shared, repository model is used. This model has been extensively used in the _____ based application.

Mainframe 130

Super Computers

Personal Computers

Real time

27. Idea of zero install architecture is to develop a system where no installation on the _____ is needed.

Client side 133

Server Side

Client & Server Side

Network

28. _____ is only a reference for defining protocols and designing and implementing systems developed by different parties.

OSI model

Reference architecture 137

Layered architecture

N-tier architecture

29. Description of communicating objects and classes that are customized to solve a general design in a particular context is called _____.

Design Pattern 140

System Pattern

System Design

Design System

30. Which of the following is the correct formula for calculating cyclomatic complexity of a program ?

V - N + 2

E - V + 2

E - N + 2 208

E + N - 2

31. In unit testing, developers test _____ code units (modules, classes, etc.) during implementation.

Other's

Their own 210

Mixed code of people

Hidden

32. Performance & Usability are examples of _____ requirements.

Business

Functional

Non-Functional 213

User

33. Which of the following is the correct definition for software testing ?

The process of demonstrating that errors are not present

The process of establishing confidence that a program does what it is supposed to do

The process of executing a program to show it is working as per specifications

The process of executing a program with the intent of finding errors

34. The code is misbehaving in a way that cannot be easily explained.

The above statement is the symptom of _____.

Runtime Error



Logical Error 221

Memory Leak

Exception

35. Secondary private classes can be declared as _____ and reside in the file of the class they belong to.

Asynchronous Classes

Inner classes 158

Outer classes

Synchronous classes

36. Split lines occur when a statement exceed the _____ column limit.

80 158

90

95

85

37. Identifier names play a significant role in enhancing the _____ of a program.

Writability

Readability 151

Reliability

Usability

38. Names representing methods and functions should be _____ and written in mixed case starting with _____ case.

Noun, Lower

Noun, Upper 153

Verb, Upper

Verb, Lower

39. "is" prefix should be used for _____ variables and methods.

Static

General

Boolean 155

Constant

40. If you are initializing a variable at the time of declaration, do not declare another _____ in the same statement.

Variable 179

Object

Class

Module

41. Consider the following statement:

"A basket contains 2 Apples and 3 bananas".

What is the relationship between basket and fruits (apples and bananas) 02marks

42. What issue can arise if code is written without keeping the portability factor in mind ?02

43. Which four techniques should be applied in parallel to attain maximum defect removal efficiency ? 02

44. How names representing abbreviations and acronyms should be described in coding style guide? 02

45. What is Textual Analysis? Explain it.03

46. Discuss the symptoms of Memory and Resource Leak bug class. 03

47. Write any two guidelines for developing equivalence partitioning. 03



48. When a small set (a couple of functions) of functions which use each other is so overwhelmingly the bottleneck, there are two alternatives. Write down at least one of them. 03

49. Using the architecture of a house or building as a metaphor, draw a comparison with software architecture.

50. Discuss the symptoms and an example of Loop errors bug class. 5

51. In Intel architecture, the lowest byte is the most significant byte while in Motorola architecture the highest byte of a word is the most significant one.

Discuss how the above mentioned factor affects portability of program 05

52. Which of the following is/are example of cryptic code?

```
x *= a;
```

```
subkey = subkey >> (bitoff - (bitoff >> 3) << 3);
```

```
a = a >> 2;
```

FINALTERM EXAMINATION

1. A change becomes ----- because of close presence of data and functions

Localized

Private

Global

Accessible

2. Which of the following is NOT an objective for building an analysis model?

Develop an abbreviated solution for the problem

Establish basis for software design

Define set of software requirements

Describe customer requirements

3. Data flow diagrams are used to handle processes involved in _____

Business Process Transformation

Flow of data 53

Flow of information

Cost estimation

4. The first most important study in developing any system is to identify

Purpose of the system

Implementation of the system

Design of the system

Architecture of the system not sure ☺

5. Software Architecture is all about _____

Requirements gathering

Design not conform ☹

Coding

Testing

06. Dynamic components of an OOA model are _____

Not reusable

Sensitive to timing and event processing

Stable throughout the operational life of an application

Structural in nature

7. UML (unified modeling language) analysis modeling focuses on the _____ .

Behavioral model and environment model.

Behavioral model and implementation model.

User model and environmental model



User model and structural model

8. Perry and Wolfe proposed the following formula for software architecture:

Software architecture = {Forms, Rationale}

Software architecture = {Elements, Forms, Rationale}

Software architecture = {Parts, Rationale}

Software architecture = {Parts, Elements}

9. Repository model also provides the ----- view of the system

Global 130

Local

General

Private

10. Which of the below is NOT a part of Architectural styles?

Data Center architecture

Client Server Architecture

Hirerical Architercture 129

Layered Architecture

11. Consider the following scenario:

“Student logins the system and checks his/her lecture schedule”

Keeping in mind the use case diagram, and above scenario the one of the post conditions might be:

Student should have a login

System should be available

Student should log-off after checking schedule

Lecture schedule should be displayed date wise

12. When measure of independence of a module or component is low to the other,

How would changes in one component have effect on other component?

No

Low

High

Equal

13. One of the most powerful features of exception handling is that an error can be ----- over function boundaries.

Thrown 187

Called back

Caught

Sent

14. What is the normal order of activities in which software testing is organized?

Unit, integration, system, validation

System, integration, unit, validation

Unit, integration, validation, system

Integration, unit, system, validation

15. Two tests are considered to be equivalent if it is believed that: if one discovers a defect, the other probably will too, and if one does not discover a defect, -----.

The other probably may

The other probably can

The other probably won't either 202

The other probably will

16. For equivalence partitions, we divide the problem in ----- obvious categories of equal strings



4

3

2

5

17. In ----- testing we test the structure of the program.

White Box 201

Black Box

System

Regression

18. Static analyzers are software tools for ----- processing.

Analysis text

Source text 214

Design text

Maintenance Text

19. Unit testing is roughly equivalent to _____ testing for hardware in which each chip is tested thoroughly after manufacturing.

Circuit level

Chip Level 210

Component level

System level

20. A SRS is said to be _____ if and only if, every requirement stated therein has only one interpretation.

Compact

Unambiguous

Consistent

Detailed

21. In Java, ">>" is used for _____ shift and ">>>" for _____ shift

Arithmetic, Logical

Mathematical, Logical

Incremental, Arithmetic

Logical, Arithmetic

22. A(n) _____ is a variance from a desired product attribute

Error

Exception

Defect 195

Mistake

23. st cases should be generated for unit testing and system testing during _____.

Testing and maintenance respectively

Requirement analysis

Design and requirement analysis respectively

Coding and design respectively

24. a of zero install architecture is to develop a system where no installation on the ____ is needed.

Client side 133

Server Side

Client & Server Side

Network

25. _____ is NOT a layer of operating system.

Core layer

Application layer



Presentation layer 136

UI layer

26. patterns are devices that allow programs to share knowledge about their _____.

Design 140

Code

Analysis

Testing

27. Which design pattern provides a unified interface to a set of interfaces in a sub-system?

Facade 146

Singleton

Observer

Joint

28. In unit testing, developers test _____ code units (modules, classes, etc.) during implementation.

Other's

Their own 210

Mixed code of people

Hidden

29. Inspections cannot check _____ characteristics.

Non-Functionl. 213

Business

User

Functional

30. Performance & Usability are examples of _____ requirements.

Business

Functional

Non-Functional 213

User

31. Inspections may be applied to any representation of the system which may include all except _____.

Requirements

Design

Testing

Analysis 213

32. Debuggers can be used to display values of _____.

local variables only

global variables only

static variables only

both local and global variables 229

33. The code is misbehaving in a way that cannot be easily explained.

The above statement is the symptom of _____.

Runtime Error

Logical Error 221

Memory Leak

Exception

34. Ideally speaking, a function should not be larger than _____ lines of code and in any case should not exceed one page in length.

20 150

15

30



25

35. CamelCase is now the official convention for file names and identifiers in the _____ programming language.

C#

C++

Java 152

Visual Basic.Net

36. Split lines occur when a statement exceed the _____ column limit.

80

90

95

85

37. The construction should appear at the _____ of the header file

Top 160

Bottom

Left

Right

38. Identifier names play a significant role in enhancing the _____ of a program.

Writability

Readability

Reliability

Usability

39. One of the guidelines to avoid common mistakes is to never use _____ except for declar

, lectr 33or 34

;

=

||

40. When planning for performance, one should always remember the _____ rule.

80/20

70/20

60/20

100/20

41. $E = \text{Number of Edges} = 8$

$N = \text{Number of Nodes} = 6$

Using the above measures, calculate the cyclomatic complexity, $V(G)$ of Graph G. 02

42. What do you understand by the term System Downtime ? 02

43. If a class uses most of the methods and most of the data members most of the time defined in that class. Then class is having high cohesion or high coupling ?2

44. Conditional expression with negation is always difficult to understand while writing code. Give an example.2

45. Define (Be specific) the following following terms:

1) Program

2) Data

3) Documentation 03

46. Describe three coverage schemes related to white box testing. 3

47. Why Special characters like TAB and Page Break must be avoided.? Explain3

48. Do you agree or not that the use of *do - while* loops should be avoided. Give solid reason?3

49. Consider the following examples:



After playing games/watching shows/engaging in your hobby for X number of hours, your enjoyment level decreases.

After eating X amount of food, your satisfaction of the additional food becomes lesser.

Every additional unit of fertilizer generates a different increase in yield. The first few units probably gives a burst in yield compared to without fertilizer. After that, adding more fertilizer will still give more yield, but at a decreasing rate.

From the above examples, which Law of Economics comes to your mind?

Discuss Software Engineering case by applying that law. 05.

50. *Discus the symptoms and an example of logical error bug class.* 5.

51. Being a software tester, what do you think would be the software testing objectives?

Also which test will you call a successful test ? 05

52. Below are two programming terms. You are required to write their uses with at least one example.

get/set

is prefix 05.

FINALTERM EXAMINATION

CS-504-Software Engineering

1. Following are some statements associated with data flow diagrams. Identify the correct statement from among them.

DFDs are used to model complex interfaces.

DFDs are used to represent only functional processing, data stores and data movements between functions.

DFDs depict only processes which can be decomposed.

DFDs do not show external data sources and external data sinks.

2. A project is considered successful if:

The system was delivered in time and within budget.

The system meets at least some of the customer's requirements.

The system development process has a maximum impact on the ongoing business process.

Minimum time was spent for requirement gathering and designing.

3. A process which does not take input is called _____

Miracle process

Core process

Secondary process

Zombie process

4. Data Flow Diagrams _____

Replace the job of systems analysts

Do not allow every function to work at the same time.

Can be automatically generated by computer aided software engineering tools

Describes how data flows from one logical processing unit to another

5. In a, each program module is represented by a rectangular box.

Use case diagram

Document flow diagram

Class diagram

Data flow diagram

6. Identify the correct description.

The collection of use cases for a system constitutes all the defined ways the system may be used.

UML stands for Unified Markup Language



State transition diagrams are drawn for objects with no significant dynamic behavior.

Object Model depicts the dynamic behavior of system

7. Dynamic components of an OOA model are _____

Not reusable

Sensitive to timing and event processing

Stable throughout the operational life of an application

Structural in nature

8. To determine the architectural style or combination of styles that best fits the proposed system, requirements engineering is used to uncover:

Algorithmic complexity

Characteristics and constraints

Control and data

Design patterns

9. Krutchen's 4+1 architectural view model proposes the development of ____ main views

5 125

4

3

2

10. Repository model also provides the ----- view of the system.

Global

Local

General

Private

11. Client server model tries to _____ data and processing.

Distribute 130

Centralize

Process in parallel

Combine

12. We can divide the whole Software Engineering process in 4 distinct phases namely vision, definition, development, and maintenance.

Which of the following is not among "Definition related" activities of software development?

Requirement verification

Change Control not sure 😊

Requirement Engineering

Software Requirements

13. What is meant by the term 'software crisis'?

Ability to deliver software on time with good quality

A situation in which experienced developers leave the company

Inability of new software to inter-operate with existing software

A situation in which large scale software projects took more time and budget than was planned

14. Which of the following are external qualities of a software product?

Maintainability, reusability, portability, efficiency, correctness

Correctness, reliability, robustness, efficiency, usability

Portability, interoperability, maintainability, reusability

Robustness, efficiency, reliability, maintainability, reusability

15. Which writing style is best regarding identifier role in enhancing the readability of a program?

If (Flag == 0)

If (Flag == START_NUMBER)



If (Z = START_NUMBER)

If (Z = 0)

16. A useful technique for evaluating the overall complexity of a proposed architecture is to look at the component

Number and size of components

Flow dependencies and sharing dependencies

Size and cost

Algorithms used

17. For equivalence partitions, we divide the problem in ----- obvious categories of equal strings

4

3

2

5

18. In ----- testing we test the structure of the program.

White Box

Black Box

System

Regression

19. Which is not included in test criteria applied in a phase of testing?

Functional validity

Interface integrity

Correctness

Programming Logic

20. Inspections can check conformance with a specification but not conformance with the --- ----- requirements.

Customer's real 213

Developer

Tester

Manager

21. Static analyzers are software tools for ----- processing.

Analysis text

Source text

Design text

Maintenance Text

22. Holistic medicine, concerns itself with the state of the body as a whole, not the ----- that is currently attacking it.

Target

Reason

Disease

Source

23. Software deteriorates rather than wears out because

Software suffers from exposure to hostile environments

Defects are more likely to arise after software has been used often

Multiple change requests introduce errors in component interactions

Software spare parts become harder to order

24. Testing is an intellectually demanding activity and has a lifecycle ----- to software development.

Equal

Parallel 198



Sequential

In contrast

25. A memory leak bug is one in which memory is somehow allocated from either the operating system or an ----- "pool", but never deallocated when the memory is finished being used.

Mixed memory

External memory

Internal Memory 219

Mutually exclusive memory

26. _____ are used to describe flow of data or control in an application.

Code structures

String matchings

Paths

Flow graphs 203

27. Writing test cases and generating test data are processes that demand _____ building capabilities.

Code

Domain

System

Scenario

28. What types of errors are missed by black-box testing and can be uncovered by white-box testing?

Runtime errors

Logic errors

Performance errors

Input errors

29. The cyclomatic complexity metric provides the designer with information regarding the number of _____.

Statements in the program

Cycles in the program

Errors in the program

Independent logic paths in the program 207

30. The best reason for using Independent software test teams is that

Software developers do not need to do any testing

Strangers will test the software mercilessly

Testers do not get involved with the project until testing begins

The conflicts of interest between developers and testers is reduced

31. _____ is intended to define a many to many relationship between objects so that when one object changes state all its dependants are notified and updated automatically.

Observer Pattern

Facade Pattern

Singleton Pattern

Joint Pattern

32. _____ ensures that a class only has one instance and provides a global point of access to it.

Behavioral Pattern

Joint Pattern

Singleton Pattern 145

Observer Pattern

33. Inspections cannot check _____ characteristics.



Non-Functionl

213

Business

User

Functional

34. Secondary private classes can be declared as _____ and reside in the file of the class they belong to.

Asynchronous Classes

Inner classes

158

Outer classes

Synchronous classes

35. The construction should appear at the _____ of the header file.

Top

Bottom

Left

Right

36. In the switch statement, cases should always end with _____.

Return

Semi colon

Break

170

Full stop

37. Modularity is a tool that can help us in _____ the size of individual functions.

Stabilizing

Reducing

173

Increasing

Strengthening

38. Abstraction and encapsulation are two important tools that can help in managing and mastering the _____ of a program.

Usability

Complexity

173

Understandability

Reliability

39. One of the guidelines to avoid common mistakes is to never use _____ except for declaration.

,

;

=

||

40. Which of the following is/are NOT one of the umbrella activities?

Requirement analysis

Architecture design

Test case development

All of the given options

14

41. Early design decision can vary in software development. Do you agree or not? Justify your choice 2.

42. Name any two standards which are being used by C/C++ for writing programs. 2

43. Write qualitative benefits of unit testing. 2

44. Do you agree that multilevel commenting is not supported in C++ and Java? 2

45. Briefly describe a business process diagram (at least 3 lines): 3

46. What are static analyzers? 3

47. Write one advantage and one disadvantage of using bit fields in writing the code.3



48. Why the use of *do_while* loops should be avoided ? 3
49. Suppose you were analyzing a Requirement statement, How will you determine that an object belongs to a certain class? 05
50. *Discuss the symptoms and an example of Loop errors bug class.* 5
51. In Intel architecture, the lowest byte is the most significant byte while in Motorola architecture the highest byte of a word is the most significant one.
Discuss how the above mentioned factor affects portability of program. 05
52. Which of the following are correct with reference to the abbreviation rules of naming convention?
We should always write:
command instead of cmd
copy instead of cp
initialize instead of init
html instead of HypertextMarkupLanguage
cpu instead of Central Processing Unit 05

THE END

Cs504 2016 All Quiz With Answer

External Entity may be

Select correct option

source of input data only

source of input data or destination of results

destination of results only

repository of data

System _____ are built to allow the System Engineer to evaluate the system components in relationship to one another.

Select correct option

Requirements

Documents

Models

Test Cases

The _____ relationship is kind of a generalization specialization relationship.

Select correct option

Bit-Byte

Uses

Binary

Extends

All the documents related to the software are also considered as part

of the _____.

Select correct option

Physical Document

Logical Document

Relational Database

Software

In object oriented design, the structure of the system revolves around.

Select correct option

Objects

Methods

Properties

None of the given options

Which elements of business processing engineering are the responsibilities of the software engineer?

Select correct option

business area analysis

business system design

product planning

information strategy planning

The Use case diagram shows that which _____ interact with each use case.

Select correct option

Use case

Actor

Component

Relation

A class will be cohesive if:

Select correct option

Class does not implement Complex interfaces

Class does not have Complex Methods

If most of the methods do not use most of the data members most of the time

if most of the methods use most of the data members most of the time.

_____ diagram does not capture control flow information, it just shows the flow of the data in a system.

Select correct option

Sequence

Data Flow

Activity

Class

A Process in Data Flow Diagram (DFD) represents

Select correct option

Flow of data

Transformation of data

Storage of data

An external agent

Regarding Flow Chart which of the following statement(s) is/are TRUE:

Select correct option

Flow charts are usually used to describe flow of control in a system

Flow Charts just show the flow of the data in a system.

Looping or Iterations can not be represented in Flow Chart

None of given options

The system model template contains which of the following elements

Select correct option

Input

Output

System Out

Input / Output

Which one of the following is the external quality of a software product?

Select correct option

Correctness

Concision

Cohesion

Low Coupling

_____ structure represents the internal organization of the various data and control items.

Select correct option

Data

Value

Information

Conceptual

An arrow in Data Flow Diagram (DFD) represents

Select correct option

Direction of flow of data

Processing of data

External agent

Internal agent

In this case of _____, intra component linkages are stronger while inter component linkages are weak.

Select correct option

high cohesion

low coupling

low cohesion

high coupling

A context diagram is used

Select correct option

as the first step in developing a detailed DFD of a system

in systems analysis of very complex systems

as an aid to system design

as an aid to programmers

_____ is a technique in which we construct a model of an entity based upon its essential characteristics and ignore the inessential details.

Select correct option

Inheritance

Polymorphism

Aggregation

Abstraction

_____ relationship is concerned with classes not with the class instantiates.

Select correct option

Association

Inheritance

Aggregation

Composition

_____ requirements cause frequent modifications in user interface.

Select correct option

Functional

Non-functional

Unstable

User

The context diagram is used as the top level abstraction in a _____ developed according to principles of structured analysis.

Select correct option

Dataflow diagram

Activity Diagram

State Transition Diagram

USe Case Diagram

In Data Flow Diagram, the entity or system, outside the boundary of this system is called

Select correct option

Process

Data Flow

External Agent

Data Store

In the case of action-oriented approach, data is decomposed according to:

Select correct option

Object requirements

Functionality requirements

Corresponding domain model

Compatibility with object interface

An external entity that interacts with a system is called a(n):

Select correct option

use case

actor

stakeholder

association

_____ requirements are often called product features.

Select correct option

Functional

Non- Functional

Developer

User

When two components of a system are using the same global data area, they are related as

Select correct option

Data Coupling

Content Coupling

Common Coupling

External Coupling

The context diagram is used as the top level abstraction in a _____ developed according to principles of structured analysis.

Select correct option

Dataflow diagram

Activity Diagram

State Transition Diagram

USe Case Diagram

Modules with high cohesion and low coupling can be treated and analyzed as:

Select correct option

White Boxes

Black Boxes

Gray Boxes

None of the given options

Identify the TRUE statement:

Select correct option

Normally Object Oriented design is more maintainable than functional oriented.

Software with Functional oriented design does not fulfill non functional requirements.

Object Oriented design can not implement "Separation of concerns" strategy

Function Oriented design does not lead to an efficient product.

A context diagram:

Select correct option

describes detailed design of a system

is a DFD which gives an overview of the system

is a detailed description of a system

is not used in drawing a detailed DFD

The modules that interact with each other through message passing have _____.

Select correct option

Low Coupling

High Coupling

Low Cohesion

High Cohesion

A maintainable design is a design , which supports

Select correct option

Change

debugging

Adding new features

All of the given

The best way to conduct a requirements validation review is to

Select correct option

examine the system model for errors

have the customer look over the requirements

send them to the design team and see if they have any concerns

use a checklist of questions to examine each requirement

In _____ the analyst determines all the sources of requirements and where do these requirements consume

Select correct option

Data Flow Analysis

Source and Sink Analysis

Down Parsing

Up Parsing

Which of the following sentence is true regarding user interface design?

Select correct option

GUI interfaces are good for all tasks which a user needs to perform at an interface.

The higher the response time, the better is the interface.

The simpler the interface, the efficient is the system.

Command-line interfaces are faster for some tasks which the user needs to perform.

Which of the following strategy/strategies lead(s) to a good software design:

Select correct option

Separation of Concerns

Modularity

Divide-and-conquer

All of the given options

In object oriented design, the structure of the system revolves around.

Select correct option

Objects

Methods

Properties

None of the given options

Data cannot flow from one external entity to other external entity because:

Select correct option

It will get corrupted

It is not allowed in DFD

An external entity has no mechanism to read or write

Both are outside the context of the system

At which stage of software development loop, results are delivered?

Select correct option

Problem definition

Solution integration

Technical development

Status quo

A context diagram is used

Select correct option

as the first step in developing a detailed DFD of a system

in systems analysis of very complex systems

as an aid to system design

as an aid to programmers

All the documents related to the software are also considered as part

of the _____.

Select correct option

Physical Document

Logical Document

Relational Database

Software

The condition that must be met before the use case can be invoked, is called:

Select correct option

Pre-Condition

Post-Condition

Pre-Assertion

Post-Assertion

In use case diagram, an ellipse signifies a(n):

Select correct option

actor

class

use case

system boundary

Modules with high cohesion and low coupling can be treated and analyzed as:

Select correct option

White Boxes

Black Boxes

Gray Boxes

None of the given options

The system specification describes the

Select correct option

function and behavior of a computer-based system

implementation of each allocated system element

algorithmic detail and data structures

time required for system simulation

A use case represents:

Select correct option

a class, its attributes and operations.

an operation's interface and signature.

the role a user plays when interacting with the system.

the system's functionality for a particular purpose.

_____ is a technique that can be used to reduce customer dissatisfaction at requirement stage.

Select correct option

Analysis

Negotiation

Prototyping

GUI

The data on which the program operates is also considered as part of the

_____.

Select correct option

Important Data

Software

Logical Data

Utility Software

The modules interacting with each other through message passing have _____ between them.

Select correct option

low cohesion

high cohesion

low coupling

high coupling

By leveling a DFD (adding more levels of abstraction) we mean

Select correct option

Splitting it into different levels

Make its structure uniform

Expanding a process into one with more sub-processes giving more detail

Summarizing a DFD to specify only the essentials

Following is/are example(s) of illegal data flow in Data Flow Diagram (DFD)

Select correct option

External Agents directly communicating with each other

External Agent updating information in a Data Store

External Agent accessing information from a Data Store

All of the given options

Software Design discusses _____ aspect of software development

Select correct option

What

How

Who

When

Which one is not a part of Software Development phase ?

Select correct option

Construction

Scope

Project Vision

Definition

_____ structure represents the internal organization of the various data and control items.

Select correct option

Data

Value

Information

Conceptual

Modules with high cohesion and low coupling can be treated and analyzed as:

Select correct option

White Boxes

Black Boxes

Gray Boxes

None of the given options

The best way to conduct a requirements validation review is to

Select correct option

examine the system model for errors

have the customer look over the requirements

send them to the design team and see if they have any concerns

use a checklist of questions to examine each requirement

In the functional design, the structure of the system revolves around.

Select correct option

objects

properties

functions

All of the given options

_____ of the total cost of the software development is spent on maintenance.

Select correct option

one third

two third

one fourth

three fourth

_____ is one of the techniques to document domain knowledge

Select correct option

State transition diagram

Feasibility matrix

System matrix

None of given options

Which of the following sentence is true regarding user interface design?

Select correct option

GUI interfaces are good for all tasks which a user needs to perform at an interface.

The higher the response time, the better is the interface.

The simpler the interface, the efficient is the system.

Command-line interfaces are faster for some tasks which the user needs to perform.

External Entity may be

Select correct option

source of input data only

source of input data or destination of results

destination of results only

repository of data

The context diagram is used as the top level abstraction in a _____ developed according to principles of structured analysis.

Select correct option

Dataflow diagram

Activity Diagram

State Transition Diagram

USe Case Diagram

A Process in Data Flow Diagram (DFD) represents

Select correct option

Flow of data

Transformation of data

Storage of data

An external agent

_____ of the total cost of the software development is spent on maintenance.

Select correct option

one third

two third

one fourth

three fourth

Construction activities are directly related to software _____.

Select correct option

Management

Planning

Quality Assurance

Development

In this case of _____, intra component linkages are stronger while inter component linkages are weak.

Select correct option

high cohesion

low coupling

low cohesion

high coupling

In Data Flow Diagram (DFD), one data store cannot directly copy the data from another _____ .

Select correct option

Agent

Process

Data store

Flow

System models include:

Select correct option

User business processes

User activities for conducting the business processes

Processes that need to be automated

All of the given options

The project manager would need _____ document to monitor and track the progress of the project.

Select correct option

Design

Project

Requirement

Planning

External Entity may be

Select correct option

source of input data only

source of input data or destination of results

destination of results only

repository of data

Regarding Data Flow Model, which of the following statement(s) is/are true:

Select correct option

It captures the transformation of data between processes/functions of a system

Processes on a data flow can operate in parallel

Only those processes are represented which we need to automate

All of the given options

Use case construction is a technique used for:

Select correct option

requirements determination.

requirements structuring.

user interface design.

database design.

In the functional design, the structure of the system revolves around.

Select correct option

objects

properties

functions

All of the given options

In Data Flow Diagram (DFD), data flow can:

Select correct option

Only originate from an external entity

Only terminate in an external entity

Originate and terminate in an external entity

Either originate or terminate in an external entity but not both

A context diagram:

Select correct option

describes detailed design of a system

is a DFD which gives an overview of the system

is a detailed description of a system

is not used in drawing a detailed DFD

Coupling is a measure of _____ of a module or component.

Select correct option

Independence

Dependence

Aggregation

Composition

Coupling is a measure of _____ of a module or component.

Select correct option

Independence

Dependence

Aggregation

Composition

Software Design discusses _____ aspect of software development

Select correct option

What

How

Who

When

Which of the following strategy/strategies lead(s) to a good software design:

Select correct option

Separation of Concerns

Modularity

Divide-and-conquer

All of the given options

_____ relationship is concerned with classes not with the class instantiates.

Select correct option

Association

Inheritance

Aggregation

Composition

When two components of a system are using the same global data area, they are related as

Select correct option

Data Coupling

Content Coupling

Common Coupling

External Coupling

The best way to conduct a requirements validation review is to

Select correct option

examine the system model for errors

have the customer look over the requirements

send them to the design team and see if they have any concerns

use a checklist of questions to examine each requirement

Data Flow Model:

Select correct option

Captures the flow of data in a system

Helps in developing an understanding of system's functionality

Describes data origination, transformations and consumption in a system

All of the given options

_____ diagram does not capture control flow information, it just shows the flow of the data in a system.

Select correct option

Sequence

Data Flow

Activity

Class

To construct a system model the engineer should consider one of the following restraining factors?

Select correct option

assumptions and constraints

budget and expenses

data objects and operations

schedule and milestones

A class will be cohesive if:

Select correct option

Class does not implement Complex interfaces

Class does not have Complex Methods

If most of the methods do not use most of the data members most of the time

if most of the methods use most of the data members most of the time.

Which one of the following is the external quality of a software product?

Select correct option

Correctness

Concision

Cohesion

Low Coupling

Regarding Data Flow Model, which of the following statement(s) is/are true:

Select correct option

It captures the transformation of data between processes/functions of a system

Processes on a data flow can operate in parallel

Only those processes are represented which we need to automate

All of the given options

The system model template contains which of the following elements

Select correct option

Input

Output

System Out

Input / Output

A _____ is not the real product but just a real looking mock-up of what would be eventually delivered.

Select correct option

Software

Program

Prototype

Test Case

In the case of _____ in a system, module boundaries are not well defined.

Select correct option

low cohesion

high coupling

low coupling

high cohesion

Data cannot flow from one external entity to other external entity because:

Select correct option

It will get corrupted

It is not allowed in DFD

An external entity has no mechanism to read or write

Both are outside the context of the system

The process of utilizing our knowledge of computer science in effective production of software systems is called _____.

Select correct option

Chemical Engineering

Electrical Engineering

Computer Engineering

Software Engineering

Arranging information in _____ form makes it easy to read, understand and comprehend as compared to streams of text.

Select correct option

Columns

Paragraph

Tabular

Rows

The goal of _____ is to translate the customer's desire for a set of defined capabilities into a working product.

Select correct option

Electrical Engineering

Product Engineering

Hardware Engineering

Mechanical Engineering

In data flow diagram (DFD), Create, Update, Delete and Read operations are normally called:

Select correct option

CRUD operations

DURC operations

RUDC operations

CDUR operation

In use case diagram, an ellipse signifies a(n):

Select correct option

actor

class

use case

system boundary

In the case of action-oriented approach, data is decomposed according to:

Select correct option

Object requirements

Functionality requirements

Corresponding domain model

Compatibility with object interface

A class will be cohesive if:

Select correct option

Class does not implement Complex interfaces

Class does not have Complex Methods

If most of the methods do not use most of the data members most of the time

if most of the methods use most of the data members most of the time.

The design process usually involves:

Select correct option

Developing a number of different models.

Looking at the system from different angles.

Describing the system at various levels of abstraction.

All of the given options

The architecture components for product engineering are

Select correct option

data, hardware, software, people

data, documentation, hardware, software

data, hardware, software, procedures

documentation, hardware, people, procedures

In use case diagram, the scope of the system is defined by:

Select correct option

Actor

Entity

System Boundary

"Extends" relationship

_____ requirements cause frequent modifications in user interface.

Select correct option

Functional

Non-functional

Unstable

User

All the documents related to the software are also considered as part

of the _____.

Select correct option

Physical Document

Logical Document

Relational Database

Software

The use of traceability tables helps to

Select correct option

debug programs following the detection of run-time errors

determine the performance of algorithm implementations

identify, control, and track requirements changes

none of the given