

CS605 Final Term Current Papers 2023

Solved by Masters

Software reliability uses _____ techniques to determine the likelihood that a software failure will occur.

Choices:

Statistical



Non-statistical



Accidental



Irrational



Software Requirement Specification is _____ if it written in a manner that facilitates the referencing of each individual requirement stated therein.

Choices:

Traceable



Not Traceable



Incorrect



Ambiguous



Whenever a change is required, the _____ decides whether to allow this change to happen or deny it.

Choices:

Configure Changing Box

☐

Change Control Board

☒

Change Client Board

☐

Control Cost Box

☐

The goal of software development is to develop ----- software, on time and on budget.

Choices:

Quality



Costly



Inconsistent



Incomplete



_____ engineering does not simply create a modern-equivalent of an older program, rather new user and technology requirements are integrated into the reengineering effort.

Choices:

Vague Process

☐

Irrational

☐

Forward

☒

Backward

☐

A redesigned business process must be _____ before it is fully integrated into the business.

Choices:

Abolished

☐

Neglected

☐

Irrationalized

☐

Prototyped

☒

_____ depicts that each development step inherits certain errors from the previous step.

Choices:

Defect amplification model



V-model



Capability maturity model



Statistical model

To develop the schedule for a project, time required for each activity in the Task Network is _____.

Choices:

Maximum



Estimated



Minimum



Average



_____ are listed as one of the root cause of software project failure.

Choices:

Coding errors



User-interface errors



Requirements errors



Logical errors



Reverse engineering is the process of_____.

Choices:

Requirement recovery

☐

Design recovery

☒

Data recovery

☐

Code recovery

☐

Switch statements are often duplicated in code; they can typically be replaced by use of _____.

Choices:

Inheritance

☐

Composition

☐

Association

☐

Polymorphism

☒

The basic building blocks in every CMMI model are called _____.

Choices:

Components



Resource



Events



Process areas



Which of the following statements is true about legacy systems?

Choices:

Maintaining legacy system is very easy

☐

System documentation is inadequate and out of date

☐

Hardware platform is easily available

☐

Different parts of the system are consistent with each other

☒

Reverse engineering activities include understanding the processing, the data and _____.

Choices:

User interfaces



Portability



Security



Architecture



In a software, long methods become complex and it is _____.

Choices:

Hard to understand and maintain

☒

Easy to maintain

☐

Easy to understand but hard to maintain

☐

Easy to understand

☐

Which is not correct in the context of Poka-Yoke technique?

Choices:

Simple and cheap



Sophisticated and expensive



Part of Process



Indication point should be near to the place where the problem occurred



The ----- system provides a common value scale for every software task, regardless of the type of work being performed.

Choices:

SCM



CM



All of the given



Earned value



For a project, if value of TSS is 0.9, then the degree of rigor for this project will be:

Choices:

Strict



Structured



Casual



Strict or Structured



In _____ the potential for new technology or new business idea is explored.

Choices:

Concept proofing project

☐

Concept implementation project

☐

Concept development project

☒

Concept scoping project

☐

Question: **16** (Marks: 1)

The full form of MTBF is:

Choices:

Maximum time between fire

☐

Mean time best feature

☐

Maximum time best feature

☐

Mean time between failure

☒

The first digit, X, is used for the major release number which is used to identify_____.

Choices:

feature release number



defect repair number



maintenance numbers



major increase in the product functionality



In Configuration Status reporting, reports are generated on _____.

Choices:

Half Yearly basis

☐

Regular basis

☒

Monthly basis

☐

Yearly basis

☐

Removing temporary variables in Software Refactoring is _____

Choices:

Always MUST-DO activity

☐

Desirable, as much as possible

☐

Not a good programming approach

☒

Automatically performed by IDE

☐

If the frequent changes (in a software) are not managed properly, then the results are _____.

Choices:

Increase complexity



chaos



waste of money



waste of time



_____ is a bad smell in code, when a change requires lots of little changes in many different classes.

Choices:

Shotgun surgery



Debugging



Large class



Lazy class



Subjective Questions

In reverse engineering, we move from lower abstraction level to higher abstraction level, do you agree or not? Give reason for your answer.

Answer:



No, I do not agree that in reverse engineering we always move from lower abstraction to higher abstraction level. While it is true in some cases reverse engineering can involve moving from lower abstraction level to higher this is not true in all cases. Depending on the system being analyzed and specific goals of the reverse engineering process it may be necessary to move in opposite direction. |



Differentiate between Structured rigor and Casual rigor.

Answer:



Rigor refers to strickness. structural rigor and casual rigor are two different approches to achieve rigor in search and analytical context.

Structure rigor:

Structure rigor refers to an approach that emphasize strick adherence to a well defined methadology or set rules This approach is often use in quantative research or other fields. The goal of structure rigor is to minimize potential biases and errors.

Casual rigor:

It refer to approach that emphasize on flexibility, cretivity and adaptability. This approach is used in qualitative research. Its main goal is to generate rich, nuanced data that can capture complexibility. |



How can we calculate MTBF? Give proper formula.

Answer:



B

I

U

≡

≡

≡

≡



MTBF mean time between failure can be calculate by following formula:

$$MTBF = MTTF + MTTR$$

|



List four strategic options that are considered in case of legacy system assessment, before a decision for its migration is made.

Answer:



1. Replacement: This strategy involves replacing the legacy system entirely with a new system that meets organization current needs.
2. Modernization: This strategy involves updating legacy system to incorporate new technology and features.
3. Integration: This strategy involves integrating the legacy system with newer system or application to data sharing.
4. Retirement: This strategy involves retiring legacy system entirely and replacing it with new system.

Make a Comparison in Staged Representations and Continuous Representations?

Answer:



stage representation:

In stage representation the process is divided into distinct stages and steps with each stage having a clear beginning and The stages are often sequential meaning that one stage must be complete before moving to other. This approach is useful when a process involves discrete, well defined steps and help to simplify.

Continuous representation:

It describes a process as a continuous flow, without clear boundaries or stages. This process is seen as a dynamic system. This approach is useful when a process is complex and involves many variables that interact with each other.

More important questions shared by students

Q1: Many times we tag requirements with certain attributes, e.g. Requirement ID, Requirement Status etc. list at least two (2) advantages of such tags. (5 Marks)

We tag requirement with certain attributes in order to manage them in orderly manner

They are used to establish context and background for each requirement and they can

Be used to filter, sort and query to view selected subset of the requirement

Q2: Being a software engineer, suppose you take a concept development project, list some of the tasks that you will perform to implement the project. (5 Mark)

- Concept scoping
- Preliminary concept planning
- Technology risk assessment
- Proof of concept
- Concept implementation
- Customer reaction to the concept

Note: just write the names of the tasks, no need to provide internal details (textual description)

Q3: For a certain application

Suppose

P1 = current annual maintenance cost for an application = 200000

P2 = current annual operation cost for an application = 50000

P3 = current annual business value of an application = 400000

L = expected life of the system = 4 years

Calculate maintenance cost of the system. (5 Marks)

Cost of maintenance is calculated as:

$$C = [P3 - (P1 + P2)] * L$$

$$[400000 - (200000 + 50000)] * 4$$

$$= 600000$$

Q4: For a certain application

$$\text{MTTF} = 48$$

$$\text{MTTR} = 4$$

Calculate the “availability” of the application. (5 Marks)

Availability formula is

$$\text{Availability} = (\text{MTTF} / \text{MTBF}) \times 100$$

So first we will Find MTBF and its formula is

$$\text{MTBF} = \text{MTTF} + \text{MTTR}$$

$$= 48 + 4 = 52$$

Now add values in availability formula

$$= (48 / 52) \times 100$$

$$= 92$$

Q5: Differentiate between predictable and unpredictable risks. (3 Mark)

Predictable risks can be uncovered after careful evaluation but unpredictable risks cannot be identified

Q6: What is the Economics of Re-engineering? (3 Marks)

As re-engineering is costly and risky undertaking, a cost benefit analysis for re-engendering must be carried out

Q7: What are the uses of "fault tree analysis" technique? (3 Marks)

Fault tree analysis can be used to predict the chain of events that can cause hazards and the probability that each of these events occur to create the chain

Q8 Name two types of "Reviews".(3 Marks)

There are two main types' namely informal and Formal technical reviews

Q9: Do you think that a long parameter list of a function/method, can be a "bad smell"? Give a reason for your answer.

Yes long method/Function can be a bad smell as they are difficult to understand and can become inconsistent

Q 10: Calculate the value of cost variance for a software project if the values of BCWP and ACWP are 10 and 8 respectively. (3 Marks)

$$CV = BCWP - ACWP$$

$$= 10 - 8$$

$$= 2$$

Cs605 today paper 27 February 2023

20 to 25 mcqs come from past files

Q#11. 3 marks ka question casual and strict rigor

Casual:

All process framework activities are applied but only a minimum task set is required.

It requires reduced umbrella tasks and reduced documentation.

Strict:

In this case full process is implemented and all umbrella activities are applied

Q#12.

5 marks ka question communication channel 3 people. 5 marks ka

Total number of communication channel involving people

$$C = N(N-1)/2$$

N is people and it is given N=3

$$\text{So } C = 3(3-1)/2$$

$$=3$$

Q#13.

3 marks ka network task definition

Once the task is identified we need to develop a task network to determine the sequence in the activities need to be performed

Q#14.

3 marks ka level 3 CMM

Level 3 – Defined

At this level there are set of defined and documented standard processes established and subject to some degree of improvement over time. These standard process are in place and used to establish consistency of process preformed across the organization.

Q#15.

Requirements tracing 3 marks ka

Establishment and maintaining an agreement with the customer on the requirement for the software involves tracing individual requirements to their corresponding design, code and test cases

Q#16.

Five marks ka question SQA group activities tha or three mark ka question bhi SQA sa related tha

Read the topic from handouts

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