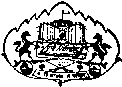
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**SAVITRIBAI PHULE PUNE UNIVERSITY**

**INTERDISCIPLINARY SCHOOL OF SCIENTIFIC COMPUTING**

**End Sem. Exam. Dec. 2018**

**Course No.:** SC – 102

**Title:** Software Engineering

#### Date: 6th Dec. 2018 Marks : 50

Time : 10:30am to 1:00pm **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Note: 1) Please read the questions carefully and answer**

**2) There are no choices in any of the questions**

**3) State any assumptions you make to support your answers.**

**I. State whether following statements are TRUE or FALSE (4)**

1. Risk Exposure decreases as the probability of occurrence of the risk

reduces.

2. In Software Project Estimation, Function Point Analysis technique provides

a more effective way as it factors in project complexity.

3. Software projects are often delivered on time with all promised features.

4. A successful test case is one that does not find any new defect.

**II. Identify Defect Severity and Priority for the following defects: (4)**

**(Severity & Priority from 1 to 4, 1 being highest)**

1. Company website only opens in Chrome browser but does not work in either

Firefox or Internet Explorer.

2. A mobile app does not work if it does not have permission to access phone camera

but, users can go into Settings and enable access and the App starts working

3. A Search feature on an online shopping site stops showing search results after first

5 pages

4. A mobile App crashes on older Samsung Galaxy S3 with Android v4.0

**III. Match the following for the use of Cohesion and Coupling concepts (4)**

|  |  |
| --- | --- |
| 1. There is a function called *GenerateOrderAndPrint* in the order processing system | a. Loosely Coupled |
| 2. A drawing program can work with different Graphics libraries simply by changing configuration | b. Cohesive |
| *3.* There is a separate database access layer in the system | c. Tightly Coupled |
| *4. Class InterestCalculator*uses the data structure for tenure and interest rates defined in another class | d. Not Cohesive |

**IV. Answer the following in 1 or 2 lines each (4)**

1. What is a Backlog in Scrum Agile?

2. What is Verification and Validation in Requirements analysis?

3. What does Cardinality refer to in E-R diagram?

4. What do “tunnel vision” and “reinvent the wheel” mean with reference to

Design Principles?

**V. Use Problem Decomposition technique to come up with tasks and task network (6)**

**for the following problem:**

A Mobile app allows users to scan QR Codes. Once launched, the App first asks permission to access camera. Once it has, it scans the code using mobile phone’s camera. The QR code is first stored into the app’s data store for future reference. Then the app analyses the QR code and decodes the message in it (typically a URL). The URL is also stored in the local app data. The URL is then displayed to the user and option is given to visit the URL using a web browser. If the same QR code is scanned again, the App first checks in its data store and directly retrieves the URL.

**VI. State any 4 design patterns and give an example of when it can be used. (4)**

**Please note, just name the pattern and give example No need to give definition**

**VII. State the 3 high level User Interface Design - Golden Rules and state at least (3)**

**2 specific rules under each.**

**VIII. Explain the Software Testing Life Cycle or STLC (4)**

**IX. Using applicable Black Box Testing techniques, please come up with at least (6)**

**6 test cases for the following problem statement**

**Please state specific technique used and then write your test cases under it**

A Temperature sensor can accurately measure temperatures from −4 ℃to 50 ℃

**X. Calculate Risk Exposure for following scenario- (3)**

Assume each LOC cost is Rs. 100

A team is developing an eCommerce website. The key component is the shopping cart. The team is trying to develop the shopping cart component themselves, but there is a 50% risk that the component may not finish in time. In such case, the team will have to use a component developed by other company.

The component is estimated at **250 LOC.**

**XI. Explain the differences in 2-3 lines each (Any 4) (4)**

1. Proactive vs Reactive Risk Management

2. Functional vs Non-functional requirements

3. Prescriptive vs Iterative process models

4. Black Box vs White box testing

5. User Experience (UX) Design vs User Interface (UI) Design

6. Abstraction vs Refinement

**XII. Write the full-form for the following: (Any 4) (4)**

1. FPA

2. LOC

3. CMM

4. RMMM

5. SCM

6. XP

**\*\*\*\*\***