LAST MOMENT TUITIONS

SOFTWARE ENGINEERING
DEC 2017

Total Marks: 80
Total time: 3 hours

INSTRUCTIONS
(1) Question 1 is compulsory.
(2) Attempt any three from the remaining questions.
(3) Draw neat diagrams wherever necessary.

Q.1 Attempt all four.
(a) What are the potential problems of prototyping model? (5)
(b) What are the different steps recommended to determine overall consequences of risks? (5)
(c) Explain cohesion and coupling. What are the benefits of high cohesion and low coupling? (5)
(d) With examples, differentiate between validation and verification. (5)

Q.2.(a) Tell the methods to gather the requirements for an online ticket selling system for an event. Mention any four different requirements elicitation methods. (10)
(b) With a neat diagram explain the spiral model of software development. (10)

Q.3.(a) Describe and discuss the characteristics of the agile requirements process. (10)
(b) Prepare a risk identification checklist and RMMM plan for creating an UID with biometrics (Unique identification number) for a highly populated country. (10)

Q.4.(a) Explain the different metrics used for software quality and reliability. (10)
(b) Explain basis path testing and cyclomatic complexity with suitable examples. (10)

Q.5.(a) What is Software Configuration Management? Explain the various steps involved in change control. (10)
(b) Explain the different 00 testing methods. (10)

Q.6 Write short notes on any (02) (20)
(a) SCRUM
(b) Service Oriented Software Engineering
(c) Schedule and Cost Slippage
(d) Security Engineering

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MAY 2018

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INSTRUCTIONS
(1) Question 1 is compulsory.
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Q.1 Develop the SRS for Hospital Management System. (20)
Hospital Management System is a process of implementing all the activities of the hospital in a computerized automated way to fasten the performance. This system is to maintain the patient details, lab reports and to calculate the bill of the patient. You can also manually edit any patient details and issue bill receipt to patient within few seconds. SRS for the hospital Management system should include the following:

(a) Product perspective
(b) Scope and objective
(c) Functional requirements
(d) Non-functional requirements

Q.2.(a) Explain cohesion and Coupling. Explain different types with detailed example. (10)
(b) Explain in detail Service-Oriented Software Engineering. (10)

Q.3.(a) Explain what is cyclomatic complexity and different methods to calculate it. (10)
Find the cyclomatic complexity of following code:

```
int x, y, power;
float z;
input (x, y);
if (y<0)
power = -y;
else
power = y;
z = 1;
while (power! = 0) {
z =z * x;
power = power - 1;
if (y<0)
z = 1/z;
output (z);
end
```

b) Explain Risk and its types? Explain the steps involved in setting up or generating RMMM plan. (10)

Q.4 (a) Consider a software project using Semi-detached mode with 30,000 lines of code. Obtain effort estimation, Duration estimation and person estimation. (10)

(b) Explain steps in version and change control. (10)

Q.5.(a) Explain software reverse engineering in detail. (10)

(b) What is FTR? Explain the Review guidelines considered during FTR. (10)

Q.6 Write short notes on any (02) (20)

(a) Software Configuration Management

(b) Test Driven Development

(c) Agile Process Models

(d) User interface design

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INSTRUCTIONS
(1) Question 1 is compulsory.
(2) Attempt any three from the remaining questions.
(3) Draw neat diagrams wherever necessary.

Q1. (a) When should one use Prototype model? Discuss the advantages and disadvantages of the prototype model. (8)
(b) Discuss Abstraction, Information Hiding and Functional Independence. (6)
(c) Explain the features of repository required to support SCM. (6)

2. (a) Explain with suitable diagram Scrum Agile model. (10)
(b) Why Integration testing is needed to test a software? Explain the different incremental integration strategies. (10)

3. (a) List different metrics used for software measurement. Explain function point-based estimation technique in detail. (10)
(b) What do you understand by software maintenance? Also explain the different types of maintenance. (10)

4. (a) Explain in detail the Software Configuration Management process with suitable diagram. (10)
(b) What is white box testing? Explain the basis path testing method in detail. (10)

5. (a) What are the different categories of Risks? Explain the steps in developing RMMM plan. (10)
(b) What is FTR in SQA? What are Its objectives? Explain the steps in FTR. (10)

Q6. Write short note on any two (any 2) (20)
(a) Black Box Testing
(b) COCOMO II Estimation Models
(c) Test Driven Development
(d) Service Oriented Software Engineering