

Name :
Reg No :

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
07 THRISSUR CLUSTER

FIRST SEMESTER M.TECH. DEGREE EXAMINATION DEC 2017

COMPUTER SCIENCE AND ENGINEERING
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07CS 6101

ADVANCED SOFTWARE ENGINEERING

Time : 3 hours

Max.Marks: 60

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1a	What do you mean by a software process? What is the difference between a methodology and a process?	4

Answer b or c

- | | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| b | Explain using suitable examples the types of product developments for which the evolutionary life cycle model is suitable. Also mention the types of products for which the spiral model is suitable. | 5 |
| c | Assume that you are a technical manager of a software development organization. A client approached for a software solution. The problem stated by the client have uncertainties which lead to loss if it not planned and solved. Which software development model you will suggest for this project-justify. Explain that model with its pros and cons and neat sketch. | 5 |

Q.no.	Module 2	Marks
2a	What is a decision tree? Where it is used?	4

Answer b or c

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|----------|---------------------------------------------------------------------------------------------------------------------------------|----------|
| b | Discuss about the metrics for small organizations. What are the main issues in measuring the software size using LOC as metric. | 5 |
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| c | What are the important types of risks that a project might suffer from? How would you identify the risks that a project is susceptible to during project the project planning stage. | 5 |
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Q.no.	Module 3	Marks
3a	Compare relative advantages of the object oriented and function oriented approaches to software design.	4

Answer b or c

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|---|------------------------------------------------------------------------------------------------------------------------|----------|
| b | Give an example of inconsistent functional requirement. Explain why do you think that the requirement is inconsistent. | 5 |
| c | What do you mean by balancing a dfd. Construct a dfd representation for automation software of your college. | 5 |

Q.no.	Module 4	Marks
4a	Identify the factors which make the measurement of software reliability a much harder problem than the measurement of hardware reliability.	4

Answer b or c

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|---|----------------------------------------------------------------------------------------------------------------------|----------|
| b | Explain why every software system must undergo maintenance or progressively become less useful. | 5 |
| c | Explain the importance of software configuration management in modern quality paradigm such as SEI CMM and ISO 9001. | 5 |

Q.no.	Module 5	Marks
5a	What is the difference between cyclomatic complexity and program comprehensibility. Can you justify why such an apparent relationship exists?	5

Answer b or c

- b** Draw the control flow graph for the following function named find_maximum.
From the control flow graph determine the cyclomatic complexity.

```
while(a>b)
{
    b=b-1;
    b=b*a;
}
c=a+b;
```

- c** Write the algorithm for the construction of a system dependence graph SDG. **7**
Explain with example.

Q.no.	Module 6	Marks
6a	Discuss the role of the data dictionary in a CASE environment.	5

Answer b or c

- b** Suppose your team has developed a software product. How would you assess the potential reusability of the developed functions. **7**
- c** Identify the CASE support that can be availed of during a large maintenance effort concerning a large legacy software. **7**