This question paper contains 2 printed pages

Your Roll No

6135

MCA/ IV Sem.

Paper MCA – 402 – SOFTWARE ENGINEERING

J

Time 3 hours Maximum Marks 60

(Write your Roll No on the top immediately on receipt of this question paper)
Attempt all questions Parts of a Question must be answered together

1

a) Is it possible to have a system that can automatically verify completeness of an SRS document? Explain your answer

[2]

b) What does a "win-win" mean in the context of negotiation during the requirement engineering process?

[2]

c) Which of the two parameters a or b in b* KDKOC^a, has more evident impact on the values of effort in the basic COCOMO model Justify your answer

[2]

d) Quality and reliability are related concepts but are fundamentally different in a number of ways Describe the differences

[3]

2

a) What do you understand by project risks? Explain the concept of Risk Mitigation, Monitoring and Management with the help of examples

[5]

b) What are formal methods? Under what circumstances formal methods are preferred?

[3]

c) You have been testing a module for 4 days and found one fault What does this tell you about the existence of other faults?

[2]

3

a) Besides counting errors and defects are there other countable characteristics of software that imply quality? What are they and can they be measured directly?

[4]

b) List KPAs of various levels of a SW-CMM

[4]

c) Assume that testing (and bug fixing) effort is proportional to the number of errors detected (regardless of the nature of error) Suppose that testing detects 90% of the total errors in the software (10% remain undetected) By adding design and code reviews suppose the cost of the design and coding phases increases by 10% each (from the base distribution given earlier) and 10% of the errors are detected in design reviews and 10% in the code reviews (So testing now detects only 70% of the errors) What is the impact on the overall cost of reviews?

[4]

4

a) Can a program be correct and still not exhibit good quality? Explain [2]

b) Define cyclometric complexity and explain its use in software testing [3]

c) A program reads three integer values. The three values are interpreted as representing the lengths of the sides of a triangle. The program prints a message stating whether the triangle is scalene, isosceles, or equilateral. Draw a flowchart of the program. Develop a set of test cases that you feel will adequately test this program [5]

5 Write short notes on the following
a) Agile process models
b) User interface design
c) Software Quality [9]

6 Distinguish between the following
a) Testing and debugging
b) Reactive risk management and proactive risk management
c) Top down integration and bottom up integration [9]