

1735-A

Your Roll No.....

OC

MCA / IV Sem.

Paper MCA - 402 - SOFTWARE ENGINEERING

Time : 3hours

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) Software Engineering will make us create voluminous and unnecessary documentation and will slow us down. Comment on it. [2]
(b) Explain how a process is different from a project and a product. [2]
(c) List KPA's of various levels of a SW-CMM. Also explain how SW-CMM is different from ISO 9001 standard for software. [4]
(d) Why is a highly coupled module difficult to unit test? [2]
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) Define cyclometric complexity and explain its use in software testing. [3]
(c) Can a program be correct and still not exhibit good quality? Explain. [2]
3. Write short notes on the following:
(a) Agile process models
(b) Software project planning
(c) Software quality
(d) Software testing [10]
4. (a) What are prescriptive process models? Explain how these are different from agile process models. [3]
(b) What is a spike solution in XP? [2]
(c) A small program reads three integer values representing the inputs and prints a message stating whether the triangle is scalene, isosceles, or equilateral. Show a flowchart of the program. Suggest a white-box testing methodology and develop relevant test cases. [5]

- 5.
- (a) What is the need to have a requirement engineering process? Describe the requirement engineering process listing its various tasks or functions in your own words. [5]
- (a) Suppose a system for office automation is to be designed. It is clear from the requirements that there will be five modules of size 0.5 KLOC, 1.5 KLOC, 2.0 KLOC, 1.0 KLOC and 2.0 KLOC respectively. Complexity and reliability requirements are high. Programmer's capability and experience is low. All other factors are of nominal rating. Use basic COCOMO model to determine overall cost and schedule estimates (Assume $a = 2.4$, $b = 1.05$, $c = 2.5$, $d = 0.38$). [5]
6. Differentiate between the following:
- (a) Architecture style and architecture pattern
 - (b) Known risks and predictable risks
 - (c) Testing and debugging
 - (d) Validation testing system testing
- [10]