

Roll No.

Subject Code—674-X

M.C.A. (Third Year) EXAMINATION

(5 Years Integrated Course)

(Re-appear)

MCA-303

SOFTWARE ENGINEERING

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions.

1. (a) Explain the importance of SDLC models in software engineering. **5**
(b) Describe SPIRAL model for SDLC. List out the advantages and disadvantages of the model. **15**
2. (a) What are the various estimation techniques ? Explain briefly. **10**
(b) Describe Bohem's COCOMO model for cost estimation. What are the limitations of the model ? **10**

(2-47)

P.T.O.

3. (a) Define software metrics. Why do we really need software metrics? 5

(b) Explain the concept of Function point. List out the advantages of FP over LOC.

Why are FPs becoming acceptable in industries? 15

4. (a) Differentiate between cohesion and coupling. Enumerate different types of cohesion and coupling. 15

(b) Describe about PERT Chart and GANTT Chart. 5

5. (a) Compare : $4 \times 4 = 16$

(i) Top-down, Bottom-up and Hybrid Strategies

(ii) Data abstraction and Functional abstraction

(iii) Structure Chart and Flow Chart

(iv) Software Reliability and Hardware Reliability.

(b) What are the characteristics of good OO design? 4

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6. (a) Describe the difference between a black-box and structural testing and suggest how they can be used together in the defect testing process. 10

(b) What is Risk Management? Explain the various activities involved for Risk Management. 10

7. (a) Explain any *two* reliability models. What are the limitations of reliability models? 10

(b) What is reverse engineering? Describe various levels of reverse engineering. 10

8. Write short notes on the following :

(i) Demerits of water-fall model and their rectification

(ii) Data Dictionary

(iii) DFD

(iv) Team Structure. $5 \times 4 = 20$

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1,500