FACULTY OF INFORMATICS

B. E. 3/4 (I.T.) II-Semester (**Old**) Examination, December 2009/Jan., 2010

Subject : **Software Engineering**

Time : 3 Hours

Max. Marks: 75

Note: Answer all questions of Part-A and any **Five** questions from Part-B.

Part – A (10 x 2.5 = 25 Marks)

1. Define the following terms :
   a) Engineer   b) Engineering   c) Software engineering

2. How would your describe your approach to software development & why (eg. Architect, Scientist, Artist, Commando, Fire fighter, Carpenter)?

3. Explain briefly using lucid examples, as to why is it apprppriate to consider Software Engineering an Engineering discipline.

4. Differentiate the following :
   a) Size & function – oriented estimation
   b) Forward & Reverse Engineering

5. Explain the input/output approach to design.

6. What are petrinets? Explain their application.

7. List & explain three characteristics of software.

8. Differentiate the following:
   a) Alpha & beta testing
   b) Top-down & bottom-up interration testing

9. List any three recursing problems in software development. Suggest solutions to these problems.

10. Explain the three characterstics of software.

Part – B (50 Marks)

11. a) Explain the technical tasks performed by a system engineer/system analyst. 6

    b) What is trade-off matrix? Give an example. 4

12. a) What is software requirement specification (SRS)? Discuss the outline of IFFF ltd. 830-1998 (SRS). 7

    b) What is Data dictionary? 3

13. What is software engineering paradigm? Explain the concept of spiral model with the help of a neat sketch. Give atleast three advantages & limitations of the model. 10

14.a) Discuss the generic design steps. 4

   b) What are components? What is their application? 2

   c) What is preparing style? Give any four style rules. 4

15. Discuss the concept of function-point cost estimation technique in detail. Can this technique he used for technical systems? 10

16.a) What is SQA? Give the outline of SQA plan. 6

   b) Explain how do you model reliability of a software system. 4

17. a) What is system testing? 2
    b) Explain the concept of basis path testing in detail. 6
    c) What is black-box testing? Give an example. 2

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