ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)
M.Tech. I- Semester *Supplementary Examinations, November 2012*
ADVANCED SOFTWARE ENGINEERING
(Computer Science & Engineering)

Max. Marks: 60 **Time: 03 Hours**

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Answer *any five* questions
All Questions carry equal marks (12 Marks each)

1. a. Explain in detail about various software application domains.

   b. Explain in detail about specialized process models.

2. a. What are the major goals of Personal Software Process? Describe about the major framework activities involved in personal Software Process.

   b. Discuss in details about scrum method of agile software development.

3. Why are critical system specifications essential? Describe the various components of software reliability and safety specification.

4. What is meant by the term "pattern". Describe in detail about various design patterns with suitable examples.

5. What are the major principles involved in test case design and test automation.

6. With suitable example, explain about the service oriented software engineering approach.

7. a. Differentiate between quality assurance and quality control. Describe in detail about various software quality assurance activities.

   b. Discuss in detail about CMMI process improvement framework.

8. Explain about the trends in process, method and tools which can influence software engineering in the future.

R-11

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)
M.Tech. I- Semester *Supplementary Examinations, November 2012*
ADVANCED COMPUTER ARCHITECTURE
(Computer Science & Engineering)

Max. Marks: 60   **Time: 03 Hours**
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Answer *any five* questions
All Questions carry equal marks (12 Marks each)

1.	a.	Explain about shared memory multiprocessors	6M
	b.	Write about 'System Integration' to achieve the parallelism.	6M
2.	a.	Explain Amdahal's Law for a fixed workload	6M
	b.	Write about the virtual memory technology	6M
3.	a.	Write about different memory allocation schemes in shared memory organizations.	6M
	b.	What are the different Cache addressing modes? Explain.	6M
4.		What is cache coherence problem? Explain hardware synchronization mechanisms.	12M
5.	a.	With a neat diagram explain the architecture of the connection machine-5	6M
	b.	Define compound vector function. Explain with an example.	6M
6.	a.	With a neat diagram explain about the KSR-1 architecture.	6M
	b.	Explain the J-machine architecture.	6M
7.	a.	Write about operand forwards.	6M
	b.	Explain Tomasulo's algorithm.	6M
8.		Explain different forms of parallelism with case studies.	12M

Code : *1P3112*

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)
M.Tech. I- Semester *Supplementary Examinations, November 2012*
ADVANCED DATASTRUCTURES & ALGORITHMS
(Computer Science & Engineering)

Max. Marks: 60   Time: 03 Hours

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Answer *any five* questions
All Questions carry equal marks (12 Marks each)

1. a. What are inline functions? Mention their advantages and disadvantages.

   b. Explain the use of *this* pointer with a suitable example.

   c. Give brief description about the dynamic memory allocator and de-allocators.

2. a. Distinguish between function overloading and operator overloading.

   b. Explain in detail about the Hierarchical and Multiple inheritance.

3. a. Describe in detail about the amortized analysis of the algorithms.

   b. Explain list ADT with a suitable example.

4. a. Explain the open addressing, quadratic probing and double hashing.

   b. What is a heap? Explain the max heap with an example.

5. a. Explain the deletion operation using binary search trees.

   b. Write short notes on splay trees.

6. a. Write and explain the non recursive tree traversal algorithm for post order.

   b. Discuss in detail about the bi connected components.

7. a. Explain job sequencing with deadlines.

   b. Describe briefly about the general method of dynamic programming.

8. a. Write control abstraction for LC search.

   b. Explain 8-queens problem.

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ADVANCED DATABASES
(Computer Science & Engineering)

Max. Marks: 60   Time: 03 Hours
****
Answer *any five* **questions**
All Questions carry equal marks (12 Marks each)

1. a.   Discuss in detail about the problem areas in DDBS environment.

   b.   What do you mean by normalization? Explain BCNF with example.

2. a.   What are the components of a distributed DBMS?

   b.   What is vertical fragmentation? Explain with example.

3. a.   Explain about the layers of query processing.

   b.   Explain operator tree and operator graph with suitable examples.

4.   What is query optimization? Explain about centralized INGRES algorithm.

5.   What is transaction? Explain about different properties of transaction with examples.

6. a.   Explain about reliability concepts and measures.

   b.   Bring out the failures in Distributed DBMS.

7.   What are the architectural issues in distributed object DBMS.

8. a.   What are persistent programming languages?

   b.   Compare OODBMS and ORDBMS.