(3 Hours)   [Total Marks : 100

N.B. : (1) Question No. 1 is **compulsory**.

(2) Answer any **four** questions from Q. Nos. 2 to 7.

(3) Assume suitable data if **necessary**.

1.   Consider the problem statement of Online Railway Reservation System :--

   (a) Draw Use Case Diagram   6

   (b) Draw Activity Diagram for Make Reservation   8

   (c) Draw Class Diagram.   6

2.   (a) What are the different types of maintenance and also explain steps for 10
     creating a maintenance log ?

   (b) What are the objectives of testing ? .Explain black box testing an unit 10
     testing.

3.   (a) Explain how project scheduling and tracking is done for software projects. 10

   (b) Describe COCOMO model in detail.   10

4.   (a) Why FTR is necessary ? How FTR is conducted ?   10

   (b) What do you mean by Requirements ? Explain functional and Non-functional 10
     Requirements in detail.

5.   (a) Explain version control and change control with the help of suitable example. 10

   (b) Explain Open Source Software Life Cycle.   10

6.   (a) Discuss waterfall and Spiral Model of Software developments with merits 10
     and demerits.

   (b) What is an Agile Process ? Explain any one Agile Process in detail.   10

7.   Write short note (any **two**) :–   20

   (a) Types of Maintenance

   (b) Risk Management

   (c) Beta Testing and Regression Testing.

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2nd Half-12 mina-(c)-88

Con. 8288-12.

KR-8810

(3 Hours)   [Total Marks : 100

N. B. : (1) Question No. 1 is compulsory.
   (2) Solve any **four** questions out of the remaining **six** questions.
   (3) Draw neat diagrams wherever **necessary**.

1. (a) Draw and explain the block diagram of Hanium processor. Also explain its salient   10
       features.
    (b) Explain the data cache organisation of Pentium.   10

2. (a) Explain the floating point pipeline stages. Also explain the list of steps in instruction   10
       issue algorithm.
    (b) Explain how flushing of pipeline can be minimized in Pentium architecture. Also   10
       explain the instruction pairing rules for Pentium.

3. (a) List and explain the important features of Pentium II Processor. Also differentiate   10
       between Pentium II and Pentium III.
    (b) Explain segmentation mechanism in 80386 DX and hence draw and explain the   10
       protected mode address translation mechanism in 80386 DX.

4. (a) List the features of 8 bit, 16 bit and 32 bit EISA.   10
    (b) Draw and explain the work station based method of PCI bus and explain its   10
       features.

5. (a) Explain the dynamic branch prediction logic in Pentium.   10
    (b) Draw and explain the state transitions diagram for Pentium processor bus cycle.   10

6. (a) Explain the debug registers of Pentium.   10
    (b) Explain the protection mechanism in 386 DX via Callgates, Priviledge Levels.   10

7. Write short notes on :—   20
    (a) Layered architecture of SCSI
    (b) USB
    (c) Data types supported by SPARC
    (d) Architecture of Super SPARC.

93 2nd half-12-(j) JP

Con. 9785-12.

(3 Hours) | Total Marks : 100

N.B.: (1) Question No. 1 is **compulsory**.
    (2) Attempt any **four** questions out of remaining six.
    (3) Assume **suitable** data if **necessary**.
    (4) Draw **diagrams** where **required**.

1. (a) Explain with the help of flowchart the working of two-pass assembler along with   10
    the databases used.
  (b) Modify the given grammar and construct a predictive parser table explaining each   10
    step :
$$E \rightarrow E + T \mid T$$
$$T \rightarrow T * V \mid V$$
$$V \rightarrow id$$

2. (a) Explain the different error recovery techniques used in compilers.   10
  (b) Detail the different features used in macro processing.   10

3. (a) What is the need of linkage editor in System Programming ? Explain its working   10
    in detail.
  (b) Explain the working of Recursive Descent Parser and Operator Precedence Parser   10
    with examples.

4. (a) Explain Run Time storage Organisation in detail.   10
  (b) Explain the different types of Garbage collection and compaction in compilers.   10

5. (a) Explain with flowchart the working of multipass macroprocessor and the databases   10
    used.
  (b) What are the different types of intermediate codes ? Explain their implementation   10
    techniques.

6. (a) Distinguish between :---   10
    (i) Syntax tree and Parse trees
    (ii) LL Parser and LR Parser.
  (b) Explain the handling of control structures and procedures calls in code generation   10
    phase of compilers.

7. Write note on :-- any four   20
    (a) Dynamic loading and linking
    (b) **Java Compiler** Environment
    (c) **SPARC** Assembler
    (d) **Code** Optimization Techniques
    (e) Syntax Directed Translation.

T.E. sem VI (REV) 14 Dec-12
Comp sub – DWM

ws-Con-2012
Con. 8161-12.

KR-9224

(3 Hours)

[Total Marks : 100

Note: 1. Question 1 is compulsory
2. Answer any 4 out of the remaining questions.
3. Answers to sub questions must be written together

Q1. (A) Consider the following database for a chain of bookstores.
 BOOKS (Booknum, Primary_author, Topic, Total_stock, price)
 BOOKSTORE (Storenum, City, State. Zip, Inventory_value)
 STOCK (Storenum, Booknum, Qty)
With respect to the above business scenario, answer the following questions. Clearly state any reasonable assumptions you make.
 (a) Design an information package diagram. (5)
 (b) Design a star schema for the data warehouse clearly identifying the Fact table(s), Dimension table(s), their attributes and measures. (5)

(B) Consider the 5 transactions given below. If minimum support is 30% and minimum confidence is 80%, determine the frequent itemsets and association rules using the a priori algorithm.

Transaction	Items
T1	Bread, Jelly, Butter
T2	Bread, Butter
T3	Bread, Milk, Butter
T4	Coke, Bread
T5	Coke, Milk

(10)

Q2. Define the following terms by giving examples
 (a) Factless Fact tables
 (b) Snowflake Schema
 (c) Web structure Mining
 (d) Classification (5 X 4 =20)

Q3. (a) Explain the ETL cycle for a data warehouse in detail. (10)
 (b) Give five examples of applications that can use Clustering. Describe any one clustering algorithm with the help of an example. (10)

Q4. (a) Consider a data warehouse storing sales details of various goods sold, and the time of the sale. Using this example describe the following OLAP operations
 (1) Slice (2) Dice (3) Rollup (4) Drill down (10)
 (b) With a neat diagram describe the KDD process (10)

Q5. (a) What do you mean by web mining? Explain any one web mining algorithm. (10)
 (b) Describe the different features of a web enabled data warehouse. Give two example applications where such a system would be used. (10)

Q6. (a) Explain spatial and temporal data mining (10)
 (b) What is the role of Meta data in a data warehouse? Illustrate with examples (10)

Q7. Describe through a short note each of the following topics:
 (a) DMQL
 (b) Visualization techniques for Data warehousing and mining (10 X 2 = 20)