

III Semester M.Tech. (I.T.) Examination, June/July 2010
LOGIC AND FUNCTIONAL PROGRAMMING

Time : 3 Hours

Max. Marks : 80

Instructions : Answer all questions from Part – A and answer any five questions from Part – B.

PART – A

(6×5=30)

1. What is functional programming ? How does it differ from logical programming ?
2. Define clause and definite program. Give examples.
3. What is Herbrand interpretation ?
4. Compare functional logic and universal logic with examples.
5. What is negative knowledge ?
6. What is three-valued completion ?

PART – B

(5×10=50)

1. Explain least Herbrand model with illustrations.
 2. What is unification ? Explain with example.
 3. Explain SLD resolution and completeness of SLD resolution.
 4. What is SLDNF resolution for definite program ? Explain with example.
 5. Write the main features of LISP.
 6. Explain lazy evaluation with suitable example.
 7. Discuss the limitations of functional programming.
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III Semester M.Tech. (I.T.) Examination, June/July 2010
COMPILER DESIGN

Time : 3 Hours

Max. Marks : 80

- Instructions:** 1) *This question paper is comprises of 2 Parts.*
2) *Part – A contain 6 compulsory questions, 5 marks each.*
3) *Part – B contain 7 questions and you have to attempt 5 questions, 10 marks each.*

PART – A

1. Differentiate between NFA and DFA.
2. Explain operator precedence with an example.
3. Explain attribute of a token with an example.
4. Explain type checking.
5. What are the difference between intermediate code and machine code ?
6. What is an activation record ? Write its layout.

PART – B

1. Explain the process of conversion of regular expression into an NFA.
 2. Explain ambiguous grammar with an example.
 3. Explain efficiency issue with respect to symbol table.
 4. Explain how the control statements are implemented in the intermediate language.
 5. Explain optimization in compiler design.
 6. Explain the process of accessing global variable.
 7. Explain the different type of implementations of a symbol table.
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Third Semester M.Tech. (I.T.) Examination, June/July 2010
SIMULATION AND MODELING

Time : 3 Hours

Max. Marks : 80

***Instruction** : Answer **all** questions from Part A, and **any five** questions from Part B.*

PART – A

(6×5=30)

1. What is ANOVA ? When is it used ?
2. Explain least square model.
3. Define harmonic analysis.
4. Explain hill climbing.
5. What is Monte Carlo method ? Out the steps involved.
6. Define the three types of simulation.

PART – B

(10×5=50)

Answer **any 5** questions :

1. a) Define state, entity, event and identify these in the simulation of queue of customers in a gas station.
b) Classify stochastic systems and give examples.
 2. Explain some areas where sensitivity information is useful.
 3. Classify optimization techniques and discuss any one heuristic search procedure.
 4. Discuss gradient surface method and its advantages.
 5. Explain interpolation techniques.
 6. Explain in detail the problems that can be solved by any two types of Monte Carlo Principle.
 7. Explain any 10 GPSS blocks.
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III Semester M.Tech. (I.T.) Examination, June/July 2010
INTELLIGENT DATABASES

Time : 3 Hours

Max. Marks : 80

***Instruction** : Answer **all** questions from Part A, and answer **any five** questions from Part B.*

PART – A

(6×5=30)

1. What are the benefits of DSS ?
2. Write a note on data-driven DSS.
3. Write a short note on data organization.
4. Discuss the role of data access layer in data warehouse.
5. What is data mining ?
6. Name any four characteristics of expert system.

PART – B

(10×5=50)

1. What are the applications of information systems ?
 2. Discuss any four categories of DSS in detail.
 3. With a block diagram, explain the structure of data management subsystem.
 4. What are the advantages and disadvantages of expert systems ?
 5. Describe the Bill Inmon specifications on data warehouse.
 6. Compare database system to data warehouse system.
 7. Explain any four fuzzy set operations with an example.
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III Semester M.Tech. (IT) Examination, June/July 2010
ERP AND CRM

Time : 3 Hours

Max. Marks : 80

***Instruction** : Answer **all** questions from Part A, and answer **any five** questions from Part B.*

PART – A

(6×5=30)

1. What are the common solutions provided by the top ERP System Providers ?
2. Write short notes on business process re-engineering.
3. What are CRM best practices ?
4. Explain life cycle management.
5. Explain contact management.
6. Write B2B E-commerce.

PART – B

(10×5=50)

1. What are the advantages and disadvantages of ERP system ?
 2. State the process of implementing ERP from scratch.
 3. Describe business and IT consolidation.
 4. What is data migration ? Explain the data migration strategy.
 5. Define generic security framework. Explain integrating information security within ERP framework.
 6. Define CRM. What are the reasons for adopting CRM ?
 7. Discuss the scope of analytic CRM.
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III Semester M.Tech. (I.T.) Examination, June/July 2010
BIOMETRICS

Time : 3 Hours

Max. Marks : 80

***Instruction** : Answer **all** questions from Part A, and answer **any five** questions from Part B.*

PART – A

(6×5=30)

1. Differentiate between physiological and behavioural biometrics.
2. What are the applications of biometrics systems ?
3. Discuss different types of scanners available to capture biometric traits.
4. Explain weak biometric traits with an example.
5. Discuss fusion methodology generally employed in biometrics.
6. What are the limitations of uni-modal biometrics ?

PART – B

(10×5=50)

1. Develop an algorithm for handwriting recognition system.
 2. Develop an algorithm for speaker identification. List various applications of speaker recognition system.
 3. Discuss the features required for fingerprint recognition. What are the practical problems faced while registering the fingerprint ?
 4. Enumerate the procedure for generating iris codes. Discuss the matching process generally employed in iris recognition.
 5. Enumerate different levels of fusion of biometric traits. Discuss feature extraction level fusion with an example.
 6. What are the disadvantages of non-biometric systems ? Discuss how biometrics systems have overcome those disadvantages.
 7. Develop an algorithm for face recognition system. Discuss the issues concerned with face recognition system.
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III Semester M.Tech. (I.T.) Examination, June/July 2010
WIRELESS AND MOBILE NETWORKS

Time : 3 Hours

Max. Marks : 80

PART – A

Answer **all** questions :

(5×6=30)

1. Distinguish between guided media and unguided media.
2. Explain how authentication and encryption achieved in mobile systems.
3. List the applications of DWDM.
4. Mention the differences between wired and wireless communication.
5. What is multi service ? Give one example.
6. Explain the different frequencies for radio transmission.

PART – B

Answer **any 5** questions :

(5×10=50)

1. What is a SONET ? List standards for SONET.
 2. What are CSMA ? Explain the different types of CSMA protocols.
 3. List the different characteristic of DWDM.
 4. Explain FDMA with a neat diagram.
 5. List the features of next generation switch.
 6. List the different services supported by GSM.
 7. What is signaling and explain the signaling format in mobile systems.
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III Semester M.Tech. (I.T.) Examination, June/July 2010
NATURAL LANGUAGE PROCESSING

Time : 3 Hours

Max. Marks : 80

Instruction : Answer ***all*** questions from Part A, and answer ***any five*** questions from Part B.

PART – A

(6×5=30)

1. Define the different levels of language analysis.
2. What is a word ? Explain.
3. Explain about action and causality.
4. Write short note on segmentation and queue phrases.
5. Write short notes on particle.
6. Explain the reason to build a conversational agent.

PART – B

(10×5=50)

1. Explain the various methods for evaluating language understanding system.
 2. What is a word ? Explain. What are Transitivity and Passives ?
 3. Describe the process of template matching in semantic.
 4. What are the auxiliary verbs and verb phrases ? Explain the movement phenomena in language.
 5. Define semantic interpretation and compositionality. Describe propositional phrases and verb phrases.
 6. How do you consider a language ? Define beliefs in cognitive states.
 7. What is causality in knowledge world and explain different classes of causalities relating to action to states ?
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