

F 9032

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

ARTIFICIAL INTELLIGENCE (RT)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. What are major objectives of Artificial Intelligence ?
2. How to represent knowledge in AI ?
3. Define uniform cost searching.
4. Explain importance of Heuristics in AI.
5. What are forwarding charming rule systems ?
6. Explain Alpha -Beta pruning.
7. What is meant by semantic nets ?
8. Show that $p \rightarrow q = \neg p \vee q$.
9. What are meta predicates ?
10. How to define frames using prolog ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. "AI technique is more suitable than traditional techniques". Why it is so ? Give suitable example.
Or
12. Explain BFS and DFS and compare the two methods.
13. What are Heuristic for constraint satisfaction problem and iterative deepening ?
Or
14. Explain A* algorithm and compare with AO*.
15. What are imperfect decisions and evaluation functions ?
Or
16. Explain the Alpha-Beta pruning with example.

Turn over

17. Using inferencing find who assassinated Caesar ?

Premises : "All Romans are Pompian. Brutus was a Pompian. Caesar was a Roman and a Pompian. Caesar was the ruler of Rome. All Romans dislike rulers. Caesar was assassinated".

Or

18. Explain unification forward and backward chaining.

19. How facts can be represented by prolog ? Explain with examples.

Or

20. Explain the way in which prolog can be used in Artificial Intelligence.

(5 × 12 = 60 marks)

Part A

Each question carries 4 marks

1. What are major objectives of Artificial Intelligence ?
2. How to represent knowledge in AI ?
3. Define uniform cost searching.
4. Explain importance of Heuristics in AI.
5. What are forward chaining rule systems ?
6. Explain Alpha-Beta pruning.
7. What is meant by semantic nets ?
8. Show that $p \vee q = \neg(p \wedge \neg q)$
9. What are meta predicates ?
10. How to define frames using prolog ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks

11. "AI technique is more suitable than traditional techniques." Why it is so ? Give suitable example.
12. Explain BFS and DFS and compare the two methods.
13. What are Heuristic for constraint satisfaction problem and iterative deepening ?
14. Explain A* algorithm and compare with AO*.
15. What are imperfect decisions and evaluation functions ?
16. Explain the Alpha-Beta pruning with example.

Turn over

F 9005

(Pages : 2)

Reg. No.....*CS*.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

SECURITY IN COMPUTING (RT)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Describe the different types of attacks.
2. Explain the Trojan Horse effect.
3. Differentiate Authentication and Authorization.
4. Write short notes on security breaches.
5. Write advantages and disadvantages of symmetric encryption method.
6. What do you mean by digital signatures ?
7. What do you mean by SSL ?
8. Define Firewalls.
9. Define the term database security.
10. What are the issues related to database security ?

(10 × 4 = 40 marks)

Part B

11. With relevant figure explain network security. Explain the different aspects of network security.

Or

12. Differentiate worms and viruses.
13. Write note on access control matrix and capacity list.

Or

14. Define hole. What are its different types ?
15. With neat figure explain the DEs algorithm.

Or

16. With an example explain the RSA algorithm.

Turn over

17. Explain the functioning of Keebeeos server with relevant figures.

Or

18. Explain the PGP.

19. How multi-level security is achieved using MAC ? Explain the various steps associated with it.

Or

20. Explain the SQL security on granting and revoking privileges based on DAC.

(5 x 12 = 60 marks)

(Supplementary)

Maximum : 100 Marks

Time : Three Hours

Answer all questions.

Part A

Each question carries 4 marks.

1. Describe the different types of attacks.

2. Explain the Trojan Horse effect.

3. Differentiate Authentication and Authorization.

4. Write short notes on security practices.

5. Write advantages and disadvantages of asymmetric encryption method.

6. What do you mean by digital signatures ?

7. What do you mean by SSL ?

8. Define firewalls.

9. Define the term database security.

10. What are the issues related to database security ?

(10 x 4 = 40 marks)

Part B

11. With relevant figure explain network security. Explain the different aspects of network security.

Or

12. Differentiate worms and viruses.

13. Write note on access control matrix and capacity list.

Or

14. Define hole. What are its different types ?

15. With neat figure explain the DES algorithm.

Or

16. With an example explain the RSA algorithm.

Turn over

F 9012

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : Computer Science and Engineering

HIGH PERFORMANCE COMPUTING (R)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all the questions.

Part A

Each question carries 4 marks.

1. Explain the various programmatic levels of parallel processing.
2. Write short notes on parallelism in uni-processor.
3. Explain the methods used for improving the throughput of dynamic pipeline processor.
4. What is instruction prefetch and branch handling.
5. Explain the features of various associative memory organization.
6. Write short note on SIMD matrix multiplication.
7. With the help of diagram explain the working of loosely coupled multiprocessor system.
8. Briefly explain mutual exclusion and condition synchronization.
9. List the difference between state and dynamic data flow computer.
10. What are the advantages and disadvantages of data flow computer.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain the need for parallel processing in engineering design and automation.

Or

12. Explain Flynn's classification of computer architecture.
13. Discuss in detail about the various design issues of pipeline processors.

Or

14. Write short note on different types of pipeline processors.

Turn over

15. Describe the cube interconnection network and its routing function.

Or

16. Write notes on :

(a) Parallel sorting on array processor.

(6 marks)

(b) SIMD array processor.

(6 marks)

17. What are the different types of interconnection networks ? Briefly explain each.

Or

18. Explain the functional structures of multiprocessor architecture.

19. Explain the data flow design alternatives.

Or

20. With neat block diagram, explain about data flow computers and also explain its application.

[5 × 12 = 60 marks]

Part B

Each question carries 12 marks.

11. Explain the need for parallel processing in engineering design and automation.

Or

12. Explain Flynn's classification of computer architecture.

13. Discuss in detail about the various design issues of pipeline processors.

Or

14. Write short note on different types of pipeline processors.

F 9062

(Pages : 2)

Reg. No.....

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B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Computer Science and Engineering / Information Technology

CLIENT-SERVER COMPUTING (Elective-II) (RT)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Define client server computing ? What are its uses ?
2. Explain heterogenous computing. What are its merits ?
3. How to design a client server model ?
4. How to interact the client and the server using messages.
5. Define threads ? What are its applications ?
6. Define multitasking with example ?
7. Define synchronization ? How it is achieved ?
8. Write short note on mutual exclusion.
9. List the various networks communication protocols ?
10. Define interprocess communication ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain the following :

(i) Define socket ? List the parameters ?

(5 marks)

(ii) How client and server socket differs ?

(7 marks)

Or

12 Explain the following :

(i) Cross plat-form computing.

(6 marks)

(ii) Distributed computing.

(6 marks)

13. Write note on :

(i) Communication techniques protocols ?

(6 marks)

(ii) Client server interaction protocols ?

(6 marks)

Or

Turn over

14. Write note on :

- (i) Request acceptance. (4 marks)
- (ii) Dispatching. (4 marks)
- (iii) Execution of requests. (4 marks)

15. List the merits and demerits of multiprocessor. (12 marks)

Or

16. Discuss the server communication model. (12 marks)

17. Define critical section ? With an example elaborate the critical section problem ? (12 marks)

Or

18. What is mutual exclusion ? What are the various methods to achieve mutual exclusions. (12 marks)

19. Explain inter processor communication protocols ? (12 marks)

Or

20. Discuss the development of portable client-server applications. (12 marks)

(5 × 12 = 60 marks)

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks

11. Explain the following :

- (i) Define socket ? List the parameters ? (5 marks)
- (ii) How client and server socket differs ? (7 marks)

Or

12. Explain the following :

- (i) Cross platform computing. (8 marks)
- (ii) Distributed computing. (8 marks)

13. Write note on :

- (i) Communication techniques protocols ? (6 marks)
- (ii) Client server interaction protocols ? (6 marks)

Or

Turn over

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Computer Science and Engineering/ Information Technology

DISTRIBUTED COMPUTING (Elective-II) (RT)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Define distributed systems ? What are its characteristics ?
2. Define transparency ? List the various types of transparency ?
3. With the help of figure explain the file service architecture ?
4. Write a note on AFS.
5. Describe marshalling ?
6. What you mean by message passing ? How it is achieved ?
7. Explain the thread scheduling mechanism in distributed systems ?
8. Differentiate static and dynamic scheduling ?
9. Define transaction recovery ?
10. With example explain Byzantine failures ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

- 11 Explain the various design issues in distributed systems ?

(12 marks)

Or

- 12 Describe the following :

(i) System architecture of Amoeba.

(4 marks)

(ii) Process management in Amoeba.

(4 marks)

(iii) Communicaiton in Amoeba.

(4 marks)

13. Write in detail the implementation of file system ?

(12 marks)

Or

Turn over

14. Write note on :

- (a) Name space. (3 marks)
- (b) Name resolution. (3 marks)
- (c) DNS. (6 marks)

15. Explain the various clock synchronization algorithms used in distributed systems. (12 marks)

Or

16. Write a note on the following :—

- (a) Strict consistency. (4 marks)
- (b) Weak consistency. (4 marks)
- (c) Entry consistency. (4 marks)

17. With figure explain the sender initiated algorithm ? (12 marks)

Or

18. Explain the bidding algorithm in detail ? (12 marks)

19. Explain the following :—

- (a) Deadlock prevention. (6 marks)
- (b) Deadlock detection. (6 marks)

Or

20. List the different types of faults ? With figure explain the fault tolerance using active replications ? (12 marks)

(5 × 12 = 60 marks)

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks

(12 marks)

11 Explain the various design issues in distributed systems ?

Or

12 Describe the following :

- (i) System architecture of Amoeba. (4 marks)
- (ii) Process management in Amoeba. (4 marks)
- (iii) Communication in Amoeba. (4 marks)

(12 marks)

13 Write in detail the implementation of the system ?

Or

Turn over

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011**Eighth Semester**

Branch : Computer Science and Engineering/Information Technology

NEURAL NETWORKS (Elective III) (R, T)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.***Part A***Each question carries 4 marks.*

1. Differentiate between biological neuron and artificial neuron.
2. Differentiate between learning and training.
3. What are the limitations of BPN ?
4. What is meant by network paralysis ?
5. Discuss the specific applications of CPN.
6. What are the statistical properties of CPN ?
7. Discuss the situations for statistical methods in ANN.
8. What are the characteristics of Cauchy's training ?
9. How stability is ensured in recurrent networks ?
10. Discuss the characteristics of continuous BAM.

(10 × 4 = 40 marks)

Part B*Each question carries 12 marks.*

11. Explain the architecture, training and applications of multilayer perceptrons.
Or
12. Explain the training algorithms used for ANN.
13. Explain the back propagation algorithm and how it is used to train a network.
Or
14. Describe the architectures of different forms of BPN.
15. Explain the architecture and training of a forward only CPN.
Or
16. Describe with diagrams an application of full CPN.

Turn over

17. Explain the architecture and training of Boltzmann's machine.

Or

18. Explain the role of statistical methods in the non-linear optimization problems.

19. Draw the architecture of a BAM network and discuss its training algorithm.

Or

20. Discuss the two types of learning used in ART network.

(5 × 12 = 60 marks)

Maximum : 100 Marks

Time : Three Hours

Answer all questions

Part A

Each question carries 4 marks.

1. Differentiate between biological neuron and artificial neuron.
2. Differentiate between learning and training.
3. What are the limitations of BPN?
4. What is meant by network paralysis?
5. Discuss the specific applications of CPN.
6. What are the statistical properties of CPN?
7. Discuss the situations for statistical methods in ANN.
8. What are the characteristics of Cauchy's training?
9. How stability is ensured in recurrent networks?
10. Discuss the characteristics of continuous BAM.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain the architecture, training and applications of multilayer perceptrons.
- Or
12. Explain the training algorithms used for ANN.
13. Explain the back propagation algorithm and how it is used to train a network.
- Or
14. Describe the architecture of different forms of BPN.
15. Explain the architecture and training of a forward only CPN.
- Or
16. Describe with an application of full CPN.