(DCS / DIT 411)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper – I : Object Oriented Analysis & Design

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write a short notes on:

a) Integrity constraints.

b) Usecase diagram.

c) Objectives of design.

d) Consistency checking.

e) Methodology.

UNIT - I

2) What is object oriented analysis and design. Explain the models of it briefly with an example.

OR

3) Draw and explain class diagram and usecase diagram for online bookstore.

UNIT - II

4) a) Describe about measurable objectives in design.

b) Explain deployment diagram with example.

OR

5) Explain

a) The role of operation specifications. b) Consistency checking.

UNIT - III

6) Give a brief account on system design.

OR

7) Explain about Human – computer Interaction.

UNIT - IV

8) Explain managing object – oriented projects.

OR

9) Explain implementation in detail.

EEE

(DCS / DIT 412)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper – II : Computer Networks

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write short notes on:

a) ICMP

b) Format for UDP segment and TCP segment.

c) What is distributed multimedia database?

d) Differentiate cryptography & water marking.

e) e-mail security.

UNIT - I

2) a) Explain about network layer design issues.

b) Why is IP packet fragmentation sometimes necessary?

OR

3) a) What is Internet Routing? What are the different types of routing.

b) Discuss about congestion control algorithms with an example.

UNIT - II

4) a) What is the retransmission strategy?

b) How adaptive retransmission timer is set.

c) What are the TCP implementation policy options.

OR

5) a) How routing and overload are controlled in telephone networks.

b) Define the terms:

i) Option negotiation

ii) Transport quality

iii) Transport service user

iv) Transport service provider

UNIT - III

6) a) Discuss any one MPEG audio compression algorithm.

b) Explain how to generate conceptual video data, describe it with an example.

OR

7) Explain the need for data compression in multimedia systems. What are the major steps of data compression? Explain its various types.

UNIT - IV

8) a) What is the role of SMI in network management.

b) What is a key distribution centre? What is a certificate authority.

c) In what way does a public key encrypted message digest provide a "better" digital signature than public key encrypted message?

OR

9) a) Discuss about symmetric algorithms.

b) Explain about authentication protocols.

EEE

(DCS / DIT 414 E)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper – IV : VLSI Design

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answre any one question from each unit ***(4×15 = 60)***

1) a) Mention any 4 differences between CMOS and bipolar technologies.

b) Draw the stick diagram for nMOS inverter.

c) What is meant by system partitioning?

d) Define sheet resistance and area capacitance of layers.

e) List out features of Ga –As technology.

f) Mention a few CAD testing tools used in VLSI.

UNIT - I

2) a) What are the various CMOS fabrication procedures? Summarise the typical processing steps of the p-well process.

b) What are the different scaling models are used and explain the scaling factors device parameters.

OR

3) a) With suitable diagrams explain about BiCMOS fabrication procedure in an n-well process.

b) Discuss about basic electrical properties of MOS and BiCMOS circuits.

UNIT - II

4) a) Design a layout for a two input CMOS NAND gate in 2 stages.

b) Explain how good layout techniques can improve performance.

OR

5) a) With suitable diagrams explain some switch logic arrangements.

b) Explain the structural design of a parity generator.

UNIT - III

6) a) Explain the operation of 6 transistor SRAM cell.

b) Explain the disadvantages of single transistor dynamic RAM cell.

OR

7) Explain about the construction of a pseudo static RAM cell with neat diagram.

UNIT - IV

8) a) Explain the various concepts required for design for testability.

b) Write short notes on:

i) BIST

ii) ATPG

OR

9) a) Write about scan design technique with LSSD structure.

b) Explain briefly about Ga-As technology.

EEE

(DCS / DIT 414 F)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper – IV : Image Processing

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) a) What is spatial resolution.

b) What do you mean by perceived brightness.

c) Define sampling theorem.

d) What do you mean by Image addition.

e) Define line degradation.

f) What is a wavelet.

g) What is meant by pruning.

h) What does JPEG stand for.

UNIT - I

2) a) Explain the components of an Image processing system.

b) Distinguish between spatial resolution and grey level resolution.

OR

3) a) Discuss the elements of visual perception.

b) Give the steps involved in Image sampling**.**

UNIT - II

4) a) Explain histogram equalization for Image enhancement.

b) Discuss how sharpening of an image can be done in frequency domain.

OR

5) a) Explain the point operations on an input image.

b) Discuss the Homomorphic filtering.

UNIT - III

6) a) Explain the difference between image enhancement and restoration.

b) Explain the fast wavelet transform used in image restoration.

OR

7) a) Explain Wiener filtering for restoration of image.

b) Give the significance of multiresolution expansions.

UNIT - IV

8) a) How do you detect the discontinuities of an image.

b) Discuss image compression standards.

OR

9) Write explanatory notes on:

a) Region – based segmentation.

b) Error – free compression.

EEE

(DCS / DIT 415 B)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper – V : Cryptography and Networks Security

Time : 3 Hours **Maximum Marks: 75**

Answer question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write short notes on:

a) Importance of block cipher.

b) State & define key generation techniques & differentiate private key and public key.

c) Functions of signing and verifications of digital signature.

d) Explain system security standards.

e) Viruses related threats.

UNIT - I

2) a) What do you mean by cryptanalysis? Give an example.

b) Explain the key generation. Encryption and decryption of SDES algorithm in detail.

OR

c) Describe the block cipher modes of operation in detail.

d) Mention the strengths and weaknesses of DES algorithm.

UNIT - II

3) a) Discuss about

i) Testing for primality ii) Discrete logarithms

b) Why is SHA more secure than MD5? How does SHA – 1 logic procedure message digest.

OR

c) What is message authentication? Discuss about challenge / response approach in mutual Authentication.

d) Discusss about MD5 algorithm. Give examples of its usage.

UNIT - III

4) a) Describe briefly about X- 509 authentication procedures. And list out the draw backs of X.509 version 2.

b) Discuss about the features and importance of IP security Architecture.

OR

c) Explain the IP services provided by AH (Authentication Header) and ESP (Encapsulating Security Payload) protocols.

d) Explain definition, phases, types of virus structures and types of viruses.

UNIT - IV

5) a) Describe the SSL Architecture indetail.

b) Discuss the types of intrusion detection Systems.

OR

c) Explain the different types of firewall and its configurations indetail.

d) List out the participants of SET system & explain.

EEE

(DCS / DIT 415 E)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper - V : Soft Computing

Time : 3 Hours **Maximum Marks: 75**

Answer Question No.1 is compulsory ***(15)***

Answer one question from each unit ***(4×15 = 60)***

1) Write a short notes on.

a) Hopfield network.

b) Fuzzy automata and languages.

c) Simulated Annealing.

d) Fitness computation.

e) Frames.

UNIT - I

2) Explain.

a) Supervised and unsupervised algorithm.

b) Perceptron algorithm.

OR

3) a) Explain Kohenen self-organizing maps with an example?

b) Explain multilayer perceptron? Give one example.

UNIT - II

4) Explain five methods of defuzzification in detail.

OR

5) Discuss about ANFIS architecture briefly.

UNIT - III

6) a) Explain rank space method.

b) Explain genetic algorithms with example.

OR

7) Briefly discuss about K-means clustering with example.

UNIT - IV

8) Explain.

a) Al search algorithm

b) Predicate calculus.

OR

9) Explain

a) Semantic networks

b) Applications of soft computing.

(DCS / DIT 421)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper - VII : Industrial Management

Time : 3 Hours **Maximum Marks: 75**

Answer any Five questions

All questions carry equal marks

1) What are the features of sole trader concern?

2) State the functions of management.

3) Draw equivalent cash flow diagram.

4) Explain different methods of providing depreciation.

5) Bring out the significance of motivation.

6) Give an account of techniques used in job analysis.

7) Elucidate the methods of training employed in a concern.

8) What are the requirements of inventory management?

9) Enumerate the stages in product life cycle.

10) How is EOQ computed? State its significance.

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(DCS / DIT 422)

B.Tech. DEGREE EXAMINATION, DECEMBER – 2015

(Examination at the end of Final Year)

COMPUTER SCIENCE

Paper - VIII : Advanced Computer Architecture

Time : 3 Hours **Maximum Marks: 75**

Answer Question No.1 is compulsory ***(15)***

Answer ONE question from each unit ***(4×15 = 60)***

1) Write short note on:

a) Pipelining.

b) Superscalar Processors.

c) Static Arithmetic.

d) Control flow.

e) Routing.

UNIT - I

2) Explain:

a) Control flow versus data flow.

b) Multivector and SIMD computers.

OR

3) Explain static interconnection network and multiprocessor mechanisms.

UNIT - II

4) Describe the various mechanisms for instruction pipelining.

OR

5) Describe briefly about CISC and RISC scalar processors.

UNIT - III

6) Describe briefly about dataflow Architectures.

OR

7) Explain:

a) Snooping bus protocols.

b) Latency-Hiding Techniques.

UNIT - IV

8) Explain Parallel Models, Languages and compilers in detail.

OR

9) Explain message passing programming development.

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