

(DMCS 21)

M.Sc. (Final) DEGREE EXAMINATION, MAY – 2015

Second Year

COMPUTER SCIENCE

Paper – I : User Interface Design

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any THREE Questions

(3×15 = 45)

- 1) Explain briefly the working with icons and Bitmaps?
- 2) Write the principles of Design process?
- 3) What is do you mean by usability Testing?
- 4) Write briefly about HFC and windows?
- 5) Explain the Human factors of interactive software?

SECTION – B

Answer any FIVE Questions

(5×5 = 25)

- 6) Explain the Interface Building tools in detail?
- 7) What do you mean by the transistion diagrams with one example?
- 8) What are the different stages of the Action models.
- 9) What are the goals of system Engineering.
- 10) Write about the tree structured menus in detail.
- 11) What are Export reviews in detail?

12) What is processing messages with an example?

13) What are the Interaction devices?

SECTION-C

Answer all questions

(5×1 = 5)

14) What is Response time?

15) Write the software tools?

16) What is an Dialog Box?

17) What is the use of Message Boxes?

18) What do you mean by Assessments?



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COMPUTER SCIENCE

Paper – II : Computer Graphics

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any THREE Questions

(3×15 = 45)

- 1) Explain about the input devices of computer graphics.
- 2) Describe the midpoint ellipse algorithm.
- 3) Discuss about Sutherland-Hodgeman polygon clipping algorithm.
- 4) Explain different cubic spline interpolation methods.
- 5) Explain the following:
 - a) Parallel projection
 - b) Area-subdivision method

SECTION – B

Answer any FIVE Questions

(5×5 = 25)

- 6) Briefly describe the applications of computer graphics.
- 7) Explain Bresenham's line drawing algorithm.
- 8) Describe the area filling attributes of output primitives.
- 9) Briefly discuss about two-dimensional composite transformations.
- 10) Explain the input functions of graphical user interfaces.

- 11) Write about cubic Bezier curves.
- 12) Explain the three-dimensional viewing coordinates.
- 13) Describe the Depth-Buffer visual-surface detection method.

SECTION-C

Answer all questions

(5×1 = 5)

- 14) What are flat-panel displays?
- 15) What is pixel phasing?
- 16) What is exterior clipping?
- 17) What are three-dimensional packages?
- 18) What is Horner's rule?



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COMPUTER SCIENCE

Paper – III : Object Oriented Analysis & Design

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three of the following

- 1) Explain about modelling and object modelling in detail.
- 2) Briefly discuss about functional modelling.
- 3) Explain different UML diagrams with neat illustrations.
- 4) Describe about system analysis and design.
- 5) Explain different object oriented languages in detail.

SECTION-B

(5 x 5 = 25)

Answer any five of the following

- 6) Discuss about advanced object modelling.
- 7) Discuss about prototyping model.
- 8) Write about dynamic modelling.
- 9) Discuss about micro development process in Booch methodology.
- 10) Write short notes on preview of methodology.
- 11) Write about object design in detail.

12) Discuss about the design implementation.

13) Write about non-object oriented languages.

SECTION-C

(5 x1 = 5)

Answer all questions

14) Define object.

15) What is modelling?

16) What is activity?

17) Define class.

18) Write about state chart diagram.

EEE

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M.Sc. (Final) DEGREE EXAMINATION, MAY - 2015

Second Year

COMPUTER SCIENCE

Paper - IV: Advanced Computer Architecture

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three questions

- 1) Explain The parallelism in uniprocessor system.
- 2) a) Discuss about the principles of linear pipelining.
b) Write about the design of pipelined instruction units.
- 3) Explain the architectures of star-100 and TI-ASC.
- 4) Explain the process synchronization mechanisms in detail.
- 5) Explain cray -X - MP System Architecture.

SECTION-B

(5 x 5 = 25)

Answer all five questions

- 6) Discuss about evolution of computer systems.
- 7) Write a short note on addressing schemes for main memory.
- 8) Explain the characteristics of vector processing.
- 9) Write about the space of pipeline computers.
- 10) Write a note on parallel memory allocation.

- 11) Discuss about crossbar switch and multiport memories.
- 12) Write short notes on system deadlock problems
- 13) Discuss about static dataflow computers.
- 14) Write a note on systolic array architecture

SECTION-C

(5 x1 = 5)

Answer all questions

- 15) What is a bus?
- 16) Define deadlock.
- 17) What is vector loop?
- 18) What is a switch?
- 19) Define pipeline.

EEE

(DMCS 24B)

M.Sc. (Final) DEGREE EXAMINATION, MAY - 2015

Second Year

COMPUTER SCIENCE

Paper - IV: Microprocessor & Applications

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three of the following

- 1) Explain 8086 architecture in detail.
- 2) Explain different addressing modes in detail.
- 3) Discuss about arithmetic, branch and loop instruction of Assembles.
- 4) Explain about directives and operations of an assembles.
- 5) Discuss about different interrupt routines.

SECTION-B

(5 x 5 = 25)

Answer any five of the following

- 6) Write a note on overview of microcomputer system.
- 7) Discuss about different instruction formats.
- 8) Write about NOP & HLT instructions.
- 9) Discuss about shift & rotate instructions.
- 10) Write a short note on linking & relocation.
- 11) Write about Direct Memory Access (DMA).

12) Discuss about the operations of semaphore.

13) Write a note on virtual memory.

SECTION-C

(5 x1 = 5)

Answer all questions

14) Define microprocessor.

15) What is semaphore?

16) What is a stack?

17) Define interrupt.

18) What is linking?

EEE

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M.Sc. (Final) DEGREE EXAMINATION, MAY - 2015

Second Year

COMPUTER SCIENCE

Paper – V : Cryptography & Network Security

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three questions

- 1) Explain RSA Algorithm in detail.
- 2) Discuss about Triple DES algorithm in detail.
- 3) Explain about block cipher in detail with neat diagram.
- 4) Explain digital signature schemes in detail.
- 5) Explain the following:
 - a) Email security.
 - b) IP security.

SECTION-B

(5 x 5 = 25)

Answer any five questions

- 6) What is cryptography? Explain.
- 7) Discuss about IDEA algorithm.
- 8) Explain about RCS algorithm.
- 9) How to provide confidentiality using public key cryptography.
- 10) Discuss about hash functions.

11) Write about substitution & transposition methods.

12) Write a short notes on trusted system.

13) Discuss about firewalls.

SECTION-C

(5 x1 = 5)

Answer all questions

14) What is plain text & cipher text?

15) What is a firewall?

16) Define message confidentiality.

17) What is a protocol?

18) Define MIME.

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M.Sc. (Final) DEGREE EXAMINATION, MAY - 2015

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COMPUTER SCIENCE

Paper – V : TCP/IP

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three of the following

- 1) a) Explain about classless and classful addressing in detail.
b) Discuss about subnetting & supernetting.
- 2) Explain about IP in detail.
- 3) Discuss about UDP protocol suite in detail.
- 4) Explain about unicast routing protocols in detail.
- 5) Describe TELNET and Rlogin in detail.

SECTION-B

(5 x 5 = 25)

Answer any five of the following

- 6) Write a short note on switched LAN's.
- 7) Discuss about TCP/IP versions.
- 8) Write a short note on ARP.
- 9) Discuss about ICMP message format.
- 10) Write about encapsulation in IGMP.

11) Explain about error control in TCP.

12) Discuss about client –server model.

SECTION-C

(5 x1 = 5)

Answer all questions

13) Define routing.

14) What is a packet?

15) Define checksum.

16) What is fragmentation.

17) Define Name space..

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M.Sc. (Final) DEGREE EXAMINATION, MAY - 2015

Second Year

COMPUTER SCIENCE

Paper – VI : Data Ware Housing & Data Mining

Time : 03 Hours

Maximum Marks : 75

SECTION-A

(3 x 15 = 45)

Answer Any three of the following

- 1) Explain three –tier Data ware House Architecture with neat block diagram.
- 2) Explain OLAP operations in multidimensional Data model.
- 3) What is discretization of Data? How it is used explain.
- 4) What is Need of Indexing? Explain function based Index with example.
- 5) Describe three challenges to Data mining regarding Data mining methodology and user Interaction issues.

SECTION-B

(5 x 5 = 25)

Answer any five of the following

- 6) Explain briefly about virtual Data ware.
- 7) Discuss about star scheme design with example.
- 8) Write in detail about ETL architecture.
- 9) What is the task of DBA in OLTP system to connect ware house system.
- 10) What is Data Reduction?

11) Define Data mining Query and briefly write about data mining prioritives.

12) Explain Data analysis by grid based method in detail.

13) What in partitioning? Explain various types with example.

SECTION-C

(5 x1 = 5)

Answer all questions

14) What is metadata?

15) Define Data cleaning?

16) Define ETL.

17) What is an antlier analysis?

18) What is Reverse Index?

EEE

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Second Year

COMPUTER SCIENCE

Paper - VII : Embedded Systems

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any three of the following

(3 × 15 = 45)

- 1) What is an embedded system? Discuss its characteristics in detail.
- 2) Explain common design metrics used in the design of an embedded system.
- 3) Explain about the Real Time OS.
- 4) Why do we use micro processors in Embedded Systems.
- 5) Explain about the embedded S/W development tools in detail.

SECTION - B

Answer Five of the following

(5 × 5 = 25)

- 6) What is microprocessor and micro controller?
- 7) What is embedded software?
- 8) What is Task state & semaphore.
- 9) What is an interrupt? Explain its types.
- 10) What are the Services of RTOS?

- 11) How a RTOS differs from a conventional OS.
- 12) Write a note on Mail boxes, message queues & pipes.
- 13) Write about the applications of embedded system

SECTION - C

Answer All of the following

(5 × 1 = 5)

- 14) What is FPGA?
- 15) Define CMOS.
- 16) What is a Port.?
- 17) Define data flow models.
- 18) Define Interrupts.



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Second Year

COMPUTER SCIENCE

Paper - VII : Image Processing

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any three of the following

(3 × 15 = 45)

- 1) Generate about the Origin of digital Image Processing & Components of an Image Processing system.
- 2) Explain in detail Image Sensing & acquisition & also Image Sampling & Quantization.
- 3) Discuss in detail filtering techniques & types of filtering with example.
- 4) Explain in detail Image Compression fundamental & Standard.
- 5) Discuss in detail detection methods & types with example in Image segmentation.

SECTION - B

Answer Five of the following

(5 × 5 = 25)

- 6) Discuss the fundamental steps in Digital Image Processing.
- 7) What are the elements of visual Perception?
- 8) Explain linear & non linear Operations.
- 9) Discuss about Arithmetic & Logical Operations.
- 10) Discuss the fundamental of Image Compression.

11) Explain in brief Image Compression Models with example.

12) Differentiate the image formats of type TIFF & JPEG.

13) Explain thresholding in detail.

SECTION - C

Answer All of the following

(5 × 1 = 5)

14) What is scan code?

15) Define persistence.

16) What is Light?

17) What is filter?

18) Define Compression.



M.Sc. (Final) DEGREE EXAMINATION, MAY – 2015

Final Year

COMPUTER SCIENCE

Paper - VIII : Artificial Intelligence

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any three of the following

(3 × 15 = 45)

- 1) What are the techniques and problems in Artificial Intelligence?
- 2) a) What are the issues of knowledge representation?
b) Discuss about Control knowledge.
- 3) Explain Depth First search and Breadth First Search in detail.
- 4) Explain about strong slot and Filter structures.
- 5) a) Explain the structure of Expert Systems.
b) Write about expert system shell.

SECTION - B

Answer Five of the following

(5 × 5 = 25)

- 6) Write about the features of AI.
- 7) Discuss about characteristics of Production System.
- 8) Distinguish between forward and backward reasoning.
- 9) Write about predicate logic.
- 10) Write about Semantic nets.

11) Discuss about conceptual dependency.

12) Write about Syntactic Processing.

13) Write about expert system shell.

SECTION - C

Answer All questions

(5 × 1 = 5)

14) What is a Frame?

15) Define Inference Engine.

16) What is resolution?

17) What is knowledge acquisition?

18) Define Learning.



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M.Sc. (Final) DEGREE EXAMINATION, MAY – 2015

Second Year

COMPUTER SCIENCE

Paper - VIII : Compiler Design

Time : 3 Hours

Maximum Marks: 75

SECTION - A

Answer any three of the following

(3 × 15 = 45)

- 1) Explain about one-pass assembler in detail.
- 2) Discuss about Lexical analysis in detail.
- 3) Explain syntax directed translation in detail.
- 4) Discuss about Intermediate code generations.
- 5) Explain about code optimization in detail.

SECTION - B

Answer Five of the following

(5 × 5 = 25)

- 6) What is Compiler? Explain.
- 7) Describe the Compiler features in detail.
- 8) Discuss about type checking.
- 9) Write about run-time environments of compilers.
- 10) Write about the design issues of code generator.
- 11) Discuss about the Principle sources of optimization.

12) Write a short note on Parameter Passing.

13) Discuss about the specifications of tokens.

SECTION - C

Answer All of the following

(5 × 1 = 5)

14) What is system software?

15) Define assembler.

16) What is code optimization?

17) Define token.

18) What is back patching?

