

F 9011

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch—Electronics and Communication Engineering

ADVANCED COMMUNICATION SYSTEMS (L)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. What are geosynchronous satellites ? Explain their advantages and limitations.
2. Explain the need of LNA and its functioning.
3. What is meant by orthogonal signals ?
4. State the properties of the 'Codes' used in CDMA.
5. What are the different sources of interference in mobile communication systems ?
6. Why is the cell usually organized as hexagon in mobile communication.?
7. What are the information contained in subscriber identity module ?
8. Explain the functions of Base Station controller in GSM.
9. Distinguish between slow and fast frequency hopping CDMA systems.
10. What is meant by jamming margin in DS-CDMA ?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. (a) Explain parabolic reflector antenna and its gain pattern. (6 marks)
- (b) Plot curves showing propagation loss versus frequency for different satellite distances. Explain its significance. (6 marks)

Or

12. (a) Define the following :
 - (i) EIRP. (4 marks)
 - (ii) Noise figure. (8 marks)
- (b) With a block diagram explain the different units in a satellite transponder. (6 marks)
13. (a) Explain the switched-TDMA concept. (6 marks)
- (b) Explain the signal to ratio aspects in FDMA system. (6 marks)

Or

Turn over

- 14. (a) Compare the features of FDMA and TDMA. (6 marks)
- (b) Explain how network synchronisation is achieved between satellite and earth station in TDMA system. (6 marks)
- 15. Explain the strategies involved in channel assignment. (12 marks)

Or

- 16. (a) What is the need of sectoring ? Discuss the different methods. (6 marks)
- (b) Explain the features of bluetooth technologies. (6 marks)
- 17. With a block diagram explain GSM architecture. (12 marks)

Or

- 18. (a) What are the different logical channels in GSM ? Explain. (6 marks)
- (b) Explain the concepts and applications of GPS. (6 marks)
- 19. (a) Sketch and explain a scheme to generate PN sequence. (6 marks)
- (b) Explain the performance of DS-spread spectrum in antijamming applications. (6 marks)

Or

- 20. Discuss the noise performance of FH spread spectrum in AWGN channel. (12 marks)
- [5 × 12 = 60 marks]

Part B

Each question carries 12 marks.

- 1. (a) Explain parabolic reflector antenna and its gain pattern. (12 marks)
- (b) Plot curve showing radiation pattern for horn antenna. (6 marks)
- 2. (a) Explain the following: (12 marks)
- (i) MUF (6 marks)
- (ii) Noise figure (6 marks)
- (iii) With a block diagram explain the different parts of a cellular telephone. (18 marks)
- (iv) Explain the evolution of TDMA concept. (12 marks)
- (v) Explain the system to code spectra in FDMA system. (12 marks)

Or

Total over

F 9022

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011
Eighth Semester

Electronics and Communication Engineering, Applied Electronics and Instrumentation and
Electronics and Instrumentation Engineering

ADVANCED MICROPROCESSORS (LAS)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Describe the FKG bits in 8086 processor.
2. What is meant by DMA ? Explain briefly.
3. Explain register direct and indirect addressing.Modes in 8086 with examples.
4. What is meant by scaled addressing and relative addressing ? Give examples.
5. What are the advanced features of 80286 processor compared to 8086 processor.
6. Discuss briefly what is meant by protected mode of operation.
7. Explain the terms memory segmentation and virtual memory.
8. What are the various interrupts in 80386 processor ? Briefly explain the interrupt handling.
9. Compare RISC and CISC architectures.
10. Write a short note on MMX technology.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. (a) Describe with necessary diagrams the minimum mode and maximum mode of operation in 8086.
(b) What are the various multiprocessor configurations.

Or

12. (a) What is meant by memory banking ? Describe briefly on even and odd memory banks.
(b) Describe the interrupt vector table in 8086 processor.
13. Describe with suitable examples the various data addressing modes in 8086 processor.

Or

Turn over

14. (a) Describe with examples program memory addressing modes.
 (b) Give examples stack memory addressing.
15. With a neat block diagram explain the internal architecture of 80286 processor.

Or

16. (a) What are descriptors and selectors ? Explain the various descriptors associated with 80286 processor.
 (b) Explain the protected mode of operation in 80286 processor.
17. (a) What are the functions of the following pins in 80386 processor ?
 (i) BE₀ # – BE₃ #
 (ii) ADS #.
 (iii) NA #.
 (iv) BS₁₆.
 (v) D/C.
- (b) Explain the real mode of operation of 80386.

Or

18. (a) What is meant by paging ? Describe the paging mechanism in 80386 processor.
 (b) Describe the task switching in 80386.
19. Describe the model of 80486 processor. How pipelining is incorporated in 80486 ?
- Or
20. What is meant by superscalar architecture ? Describe the superscalar architecture of pentium processor.

(5 × 12 = 60 marks)

F 9004

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Reg. No.....*ECE*.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : ECE/Applied Electronics and Instrumentation/ Electronics and Instrumentation Engineering

COMPUTER NETWORKS (LAS)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A

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

1. Write a note on protocol data unit.
2. Write a note on TCP/IP.
3. Write a note on U-format in HDLC.
4. Write a note on polling.
5. Write a note on the frame format in a ring network.
6. Write a note on call establishment in switched virtual circuits.
7. Write a note on the role of session layer.
8. Write a note on ARPANET.
9. Write a note on SONET.
10. Write a note on synchronisation in ATM networks.

(10 × 4 = 40 marks)

Part B

*Answer any five questions.
Each question carries 12 marks.*

11. Explain the ISO-OSI model of a network.
- Or*
12. Explain different media used in guided transmission.
 13. Explain CCITT × .21 recommendations for circuit switched networks ?
- Or*
14. Explain sliding Window flow control mechanism in DLL.

Turn over

15. Explain CSMA / CD.

Or

16. Explain the different LAN topologies.

17. Explain the underlying principles in cryptography.

Or

18. Explain authentication protocols.

Or

19. Explain different ASEs used by application processes.

Or

20. Explain AAC type 3/4.

(5 × 12 = 60 marks)

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(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch—Electronics and Communication Engineering

ADVANCED COMMUNICATION SYSTEMS (L)

(Supplementary)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. What are geosynchronous satellites ? Explain their advantages and limitations.
2. Explain the need of LNA and its functioning.
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(10 × 4 = 40 marks)

Part B

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- (b) Plot curves showing propagation loss versus frequency for different satellite distances. Explain its significance. (6 marks)

Or

12. (a) Define the following :
 - (i) EIRP. (4 marks)
 - (ii) Noise figure. (8 marks)
- (b) With a block diagram explain the different units in a satellite transponder. (6 marks)
13. (a) Explain the switched-TDMA concept. (6 marks)
- (b) Explain the signal to ratio aspects in FDMA system. (6 marks)

Or

Turn over

- 14. (a) Compare the features of FDMA and TDMA. (6 marks)
- (b) Explain how network synchronisation is achieved between satellite and earth station in TDMA system. (6 marks)
- 15. Explain the strategies involved in channel assignment. (12 marks)

Or

- 16. (a) What is the need of sectoring ? Discuss the different methods. (6 marks)
- (b) Explain the features of bluetooth technologies. (6 marks)
- 17. With a block diagram explain GSM architecture. (12 marks)

Or

- 18. (a) What are the different logical channels in GSM ? Explain. (6 marks)
- (b) Explain the concepts and applications of GPS. (6 marks)
- 19. (a) Sketch and explain a scheme to generate PN sequence. (6 marks)
- (b) Explain the performance of DS-spread spectrum in antijamming applications. (6 marks)

Or

- 20. Discuss the noise performance of FH spread spectrum in AWGN channel. (12 marks)

[5 × 12 = 60 marks]

F 9022

(Pages : 2)

Reg. No.....

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B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Electronics and Communication Engineering, Applied Electronics and Instrumentation and
Electronics and Instrumentation Engineering

ADVANCED MICROPROCESSORS (LAS)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

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2. What is meant by DMA ? Explain briefly.
3. Explain register direct and indirect addressing. Modes in 8086 with examples.
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6. Discuss briefly what is meant by protected mode of operation.
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8. What are the various interrupts in 80386 processor ? Briefly explain the interrupt handling.
9. Compare RISC and CISC architectures.
10. Write a short note on MMX technology.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. (a) Describe with necessary diagrams the minimum mode and maximum mode of operation in 8086.
(b) What are the various multiprocessor configurations.

Or

12. (a) What is meant by memory banking ? Describe briefly on even and odd memory banks.
(b) Describe the interrupt vector table in 8086 processor.
13. Describe with suitable examples the various data addressing modes in 8086 processor.

Or

Turn over

14. (a) Describe with examples program memory addressing modes.
 (b) Give examples stack memory addressing.
15. With a neat block diagram explain the internal architecture of 80286 processor.

Or

16. (a) What are descriptors and selectors ? Explain the various descriptors associated with 80286 processor.
 (b) Explain the protected mode of operation in 80286 processor.
17. (a) What are the functions of the following pins in 80386 processor ?
 (i) BEO # – BE3 #
 (ii) ADS #.
 (iii) NA #.
 (iv) BS16.
 (v) D/C.

- (b) Explain the real mode of operation of 80386.

Or

18. (a) What is meant by paging ? Describe the paging mechanism in 80386 processor.
 (b) Describe the task switching in 80386.
19. Describe the model of 80486 processor. How pipelining is incorporated in 80486 ?

Or

20. What is meant by superscalar architecture ? Describe the superscalar architecture of pentium processor.

(5 × 12 = 60 marks)

F 9058

(Pages : 2)

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B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

ECE/Applied Electronics and Instrumentation Engineering

VHDL (Elective II) (LA)

[Supplementary]

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

Each question carries 4 marks.

1. Describe entity declaration in VHDL.
2. How are arrays represented in VHDL.
3. When do we use a 'Next' statement in VHDL ?
4. How does a behavioural modelling differ from data flow modelling ?
5. What is configuration ?
6. What is incremental binding ?
7. Why is overloading used in VHDL ?
8. How does implicit visibility differ from explicit visibility ?
9. How is a qualified expression useful in VHDL ?
10. How are guarded signals assigned in VHDL.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Describe the different classes of data objects in VHDL.

Or

12. Describe the different types of operators used in VHDL.
13. Write a VHDL program to find the factorial of the given numbers in an array.

Or

14. Describe a 3×8 decoder using sequential statements.

Turn over

15. With an example, show how configuration is implemented in VHDL.

Or

16. Design a multiplexer using generic statements.

17. With an example, show how 'AND' operator can be overloaded.

Or

18. With an example, show how a package is declared and used in VHDL.

19. Write a VHDL program to detect 1011 in Moore model. Overlapping sequences are accepted.

Or

20. Write a test bench program for a 4 bit counter circuit.

(5 × 12 = 60 marks)

Part A

Each question carries 4 marks

- 1. Describe entity declaration in VHDL.
- 2. How are arrays represented in VHDL?
- 3. When do we use a 'next' statement in VHDL?
- 4. How does a behavioral modeling differ from data flow modeling?
- 5. What is concatenation?
- 6. What is concatenation binding?
- 7. Why is concatenation used in VHDL?
- 8. How does implicit casting differ from explicit casting?
- 9. How is a qualified expression used in VHDL?
- 10. How are constant signals assigned in VHDL?

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks

- 11. Illustrate the different means of data objects in VHDL.
- 12. Describe the different types of operators used in VHDL.
- 13. Write a VHDL program to find the product of the given numbers in an array.
- 14. Describe a 3 × 8 decoder using sequential statements.

Time over

F 9092

(Pages : 2)

Reg. No.....

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B.TECH. DEGREE EXAMINATION, NOVEMBER 2011

Eighth Semester

Branch : Electronics and Communication Engineering, AE and Electronics and Instrumentation Engineering

MULTIMEDIA SYSTEMS (Elective III) (LAS)

(Supplementary)

Maximum : 100 Marks

Time : Three Hours

Answer all questions.

Part A

Each question carries 4 marks.

1. Briefly explain the need for multimedia authoring tools.
2. List some applications for multimedia. Give brief description.
3. What is hyper text ? Discuss how is it powerful in multimedia context.
4. What do you understand by lossy compression ? Explain.
5. Write notes on CD-I.
6. Explain Microsoft Multimedia Extensions.
7. Discuss synchronization issues.
8. Discuss the use of transform classes.
9. What are the applications for image synthesis ?
10. Write notes on multimedia network.

(10 × 4 = 40 marks)

Part B

Each question carries 12 marks.

11. Explain in detail some of the hardware output devices. (12 marks)

Or

12. (a) Discuss how digital audio is superior to analog audio. (6 marks)

- (b) Write notes on computer animation. (6 marks)

13. (a) Describe the MPEG standard. (6 marks)

- (b) Discuss the file types for images. (6 marks)

Or

14. Discuss the various audio standards for multimedia. Compare them. (12 marks)

Turn over

- 15. Discuss the principle of DVI.
- Or*
- 16. Explain the features of the members of compact disk family.
- 17. Explain in detail the principle and issues in synchronisation.
- Or*
- 18. Explain the use of classes in multimedia programming.
- 19. Explain the concepts of virtual reality. Discuss its applications.
- Or*
- 20. What is full motion video ? Discuss its need, technical hurdles and applications.

[5 × 12 = 60 marks]

(10 × 1 = 10 marks)

12 marks

11 marks

10 marks

9 marks

8 marks

7 marks

6 marks

5 marks

4 marks

3 marks

2 marks

1 mark

Part B

11. Explain in detail the need for multimedia software tools.

12. Explain the use of multimedia in education.

13. Explain the use of multimedia in business.

14. Explain the use of multimedia in entertainment.

15. Explain the use of multimedia in medicine.

16. Explain the use of multimedia in advertising.

17. Explain the use of multimedia in training.

18. Explain the use of multimedia in research.

19. Explain the use of multimedia in journalism.

20. Explain the use of multimedia in sports.