Hall Ticket Number :										

Code : 1G151 **R-11 / R-13**

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Compiler Design

(Computer Science & Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) List out the roles of a parser in compiler design 7M
   b) Explain various language translators (lex, yacc). 7M

2. a) Construct the predictive parser for the following grammar.

   E →TE'

   E→ TE' | E

   F → (E) | id 7M
   b) Write short notes on following.

   i) Left Recursion (ii) Left Factoring 7M

3. a) Distinguish between SLR & CLR parsers 7M
   b) Construct SLR parsing Table for the following grammar

   E → E + T | T

   T→ T * F | F

   F → (E) | id 7M

4. a) What do you mean by the strength of attribute grammars? Explain 7M
   b) Briefly describe about the representation of the three address statement in intermediate code generation 7M

5. a) Name three reasons why stack allocation strategy cannot be used for activation records. 7M
   b) What is a symbol table? Explain various data structures used for implementation of symbol tables 7M

6. a) Explain various storage allocation strategies 7M
   b) Discuss local optimization techniques. 7M

7. a) Explain register allocation and assignment 7M
   b) Explain data flow diagram with an example. 7M

8. a) Explain the induction variable elimination technique and explain with an example 7M
   b) What is live variable? Write algorithm for live variable analysis and explain with example 7M

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Hall Ticket Number :										

Code : 1G355 **R-11 / R-13**

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Microprocessors and Interfacing

(Common to CSE & IT)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) With a neat architectural diagram explain the functioning of an 8086 microprocessor. 9M
   b) Discuss about register organization of 8086 5M

2. a) Write an ALP in 8086 to add five 16-bit numbers and result is of 24 bit 10M
   b) Write an ALP in 8086 to multiply two 16 bit numbers 4M

3. a) With an example, explain the need for 8255 PPI in microprocessor based systems 7M
   b) Discuss about mode 0 operation of 8255 with relevant configuration diagrams 7M

4. a) Explain the need for DMA. Discuss in detail about DMA data transfer method 7M
   b) With an example explain how static RAMs are interfaced to 8086. 7M

5. a) What are the steps that 8086 will take when it responds to an interrupt? 7M
   b) With a neat sketch explain the operation of 8259A in cascaded mode. 7M

6. a) Define mode word register of 8251 for sync mode. 6M
   b) Explain the advantages of using the USART chips in microprocessor based systems. 8M

7. a) Explain about 80286 processor 7M
   b) Describe the salient features of 80386. 7M

8. a) Explain the register set of 8051. 7M
   b) What is meant by quasi-bi-directional port? Why is Port 0 of 8051 true bidirectional? 7M

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Hall Ticket Number :										

Hall Ticket Number :
Code : 1G152

R-11 / R-13

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Computer Graphics

(Computer Science & Engineering)

Max. Marks: 70 Time: 03 Hours

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Explain the application areas of Computer Graphics?
   b) Discuss in detail about Raster Graphics features?

2. a) Explain in detail about DDA algorithm?
   b) Write a short note on Antialiasing?

3. a) Discuss in detail about 2-D transformations with examples?
   b) Derive the transformation matrix for Scaling about a fixed point?

4. Explain Cohen-Sutherland line clipping algorithm with an example?

5. Define parametric cubic curves and explain them with examples?

6. a) Explain the process of window to viewport coordinate Transformation?
   b) Define Projection? And explain the different types of projections?

7. a) Explain the scan line method for visible surface detection?
   b) Explain in detail about Depth-buffer algorithm?

8. a) Discuss in detail about Computer animation functions?
   b) Write a short note on Morphing?

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Hall Ticket Number :										

Code : 1G153 **R-11 / R-13**

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Computer Networks

(Common to CSE & IT)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1.	a)	Compare OSI reference model with TCP/IP model.	7M
	b)	Give the applications of TCP/IP. Mention protocols that operate in (i) TCP (ii) I/P	7M
2.	a)	What is meant by Wireless Transmission media? What are the various ways of transmission in this media? Explain Microwave Transmission	8M
	b)	Compare Twisted Pair, Coaxial Cable and Fiber Optics.	6M
3.	a)	With suitable illustration, explain stop- and –wait ARQ.	7M
	b)	Explain framing methods in data link layer.	7M
4.	a)	Explain Dynamic Channel Allocation in LANs and MANs.	7M
	b)	Explain the 802.11 Services.	7M
5.	a)	Write short note on Multicast Routing Protocols.	8M
	b)	Compare Virtual-Circuit and Datagram Subnets	6M
6.	a)	With neat diagram explain IPv4 header format.	7M
	b)	Explain BGP—The Exterior Gateway Routing Protocol	7M
7.	a)	Explain Transport layer services.	7M
	b)	Explain Connection establishment in Transport layer.	7M
8.	a)	Difference between SMTP and MIME	6M
	b)	Write short note on multimedia.	8M

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Hall Ticket Number :										

Code : 1G154 **R-11 / R-13**

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Operating Systems

(Computer Science & Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. Explain the following
   a) Distributed systems 5M
   b) Real time systems 5M
   c) System calls 4M

2. a) What is process? Explain process states 7M
   b) What is scheduling criteria? Explain RRS Algorithm with example 7M

3. What is race condition in IPC? Explain how a semaphore is used to implement race condition? 14M

4. a) What is dead lock? Explain necessary conditions of dead lock 7M
   b) Explain dead lock avoidance 7M

5. What is virtual memory? Explain virtual memory using paging 14M

6. a) What are file access methods? Explain 7M
   b) Explain directory structure 7M

7. Explain the difference between FCFS, Scan, C-Scan, Look and C-Look disk scheduling algorithm with an example 14M

8. What are the goals of protection? Explain domain of protection and access matrix 14M

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Hall Ticket Number :										

Code : 1G155 **R-11 / R-13**

III B.Tech. I Semester Regular & Supplementary Examinations Nov/Dec 2015

Principles of Programming Languages

(Computer Science & Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Explain about Influences on Language Design. 7M
   b) Clearly explain various implementation methods of programming language. 7M

2. Describe the basic concept of denotational semantics. 14M

3. a) Writhe short notes on the following
      i) Type Checking
      ii) Named constants 7M
   b) Explain about array initialization with suitable example. 7M

4. What is iterative statement? Explain different types of iterative statements with suitable examples. 14M

5. a) Explain design issues of sub programs. 7M
   b) Write short notes on overloaded sub programs. 7M

6. a) Explain parameterized abstract data types in C++ with suitable examples. 7M
   b) Writhe short notes on the following
      i) Concurrency
      ii) Monitors 7M

7. a) What is exception handling? Explain design issues of exception handling. 7M
   b) Explain exception handling in C++. 7M

8. a) Explain about ML. 7M
   b) Compare functional programming language with imperative languages. 7M

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