Hall Ticket Number :										

R-11 / R-13

Code: 1G451

III B.Tech. I Semester Supplementary Examinations Nov/Dec 2017

Automata and Compiler Design

(Information Technology)

Max. Marks: 70 Time: 3 Hours

Answer any **five** questions

All Questions carry equal marks (**14 Marks each**)

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1. a) Explain Chomsky hierarchy of languages. 7M

   b) Write a procedure to convert NFA to its equivalent DFA. 7M

2. a) What is compiler? List and explain the various phases of compiler. 10M

   b) Define ambiguous grammar. Give example. 4M

3. a) Write LR parsing algorithm. 7M

   b) Explain shift reduce parsing method. 7M

4. a) Discuss in brief about syntax directed translation. 7M

   b) List and explain the different forms of intermediate code. 7M

5. a) Write specification of simple type checker. 7M

   b) Write short notes on type conversions. 7M

6. a) Explain the various storage allocation strategies. 10M

   b) Discuss in brief about language facilities for dynamic storage allocation. 4M

7. a) Explain with examples, peephole optimization technique. 7M

   b) Write short notes on basic block and flow graph. 7M

8. a) Write code generation algorithm. Generate target code for the following statement: 10M

   d:= (a - b) + (a - c) + (a - c)

   b) What is DAG? Construct DAG for a basic block containing the following statements: 4M

   a:=b + c

   b:=a - d

   c:=b + c

   d:=a - d

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Hall Ticket Number :										

R-11 / R-13

Code: 1G355

III B.Tech. I Semester Supplementary Examinations Nov/Dec 2017

Microprocessors and Interfacing

(Common to CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer any **five** questions
All Questions carry equal marks (**14 Marks each**)

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1.	a)	Discuss the function of bus interfacing unit in 8086	4M
	b)	Write the function of each pin in 8086	10M
2.	a)	Explain any 3 instructions in each group of 8085 instruction set	10M
	b)	Write alp to detect smallest number in string of bytes	4M
3.	a)	Differentiate I/O mapped and Memory mapped interfacing	4M
	b)	Explain the architecture of 8255	10M
4.	a)	Why DMA is important?	4M
	b)	Interface 2 16KB RAMs and 2 16KB ROM memories to 8086	10M
5.	a)	Explain interrupts in 8086	7M
	b)	Draw the architecture of 8253	7M
6.	a)	Explain the steps to Initialize 8251 to transfer and receive the data	10M
	b)	Write short notes on USB	4M
7.	a)	Give salient features of Pentium	7M
	b)	Differentiate real and protected mode	7M
8.	a)	List different modules and their function present in 8051microcontroller	7M
	b)	Give details of bit manipulation instructions in 8051	7M

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