

Hall Ticket Number :

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R-13

Code : 1G457

III B.Tech. I Semester Supplementary Examinations August 2021

Computer System Architecture

(Electronics and Communication Engineering)

Max. Marks: 70

Time: 03 Hours

Answer any five questions

All Questions carry equal marks (14 Marks each)

1. a) Describe with neat sketch the functional units of computers.
b) Explain in brief complements in data representation.

2. a) What is the need of three state buffers? Explain
b) Draw and describe flow chart for interrupt cycle.

3. a) Describe the register stack.
b) How many types of interrupts are used for break the normal execution of a program?

4. a) Explain address sequencing in microprogrammed control unit.
b) With neat sketch explain the computer configuration for microprogram.

5. a) How addition and subtraction with signed magnitude data perform? Explain with flow chart.
b) Write a flow chart for multiplication of floating point numbers.

6. a) Explain auxiliary Memory block diagram in detail.
b) Define address space and Memory Space in virtual memory. Explain with an example.

7. a) List the modes of transfer. Explain programmed I/O.
b) Outline the Bit-Oriented Protocol in serial communication.

8. a) Compare and contrast serial and parallel arbitration in inter processor arbitration.
b) Describe delayed load in RISC pipeline.

Hall Ticket Number :										
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R-13

Code: 1G353

III B.Tech. I Semester Supplementary Examinations August 2021

Digital IC Application

(Electronics and Communication Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any **five** questions

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

1. Define logic levels, noise margins & write the importance of noise margins in different IC logic families. 14M
2. With the help of diagram explain the working of three input ECL-NOR gate. 14M
3. State the libraries and packages used in VHDL and mention about the user defined packages used in VHDL. 14M
4. a) Design a logic to detect prime number of a 4-bit binary number and write VHDL code for this design. 8M
b) Describe conditional and switch statements used in VHDL with an example. 6M
5. a) Write short notes on three state devices. 7M
b) Explain about EX-OR gates and parity circuits with an example. 7M
6. Draw the logic diagram of Floating-point encoder with its functional behavior. 14M
7. a) Design a conversion circuit to convert a SRFF to a JKFF. 6M
b) Design Mod-7 counter using VHDL. 8M
8. a) Write short notes on different ROMs and RAMs. 7M
b) Distinguish Static and Dynamic RAM. 7M
