

Roll No.

3086

B. Tech. 4th Semester (CSE)

Examination – July, 2021

COMPUTER ORGANIZATION & ARCHITECTURE

Paper : PCC-CSE-204-G

Time : Three hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions selecting *one* question from each unit and question no. 1 is ***compulsory***.

1. (a) Convert the following binary numbers to decimal:
101110; 1110101. 2.5
- (b) Why Gray code is called reflected code ? Explain. 2.5
- (c) Write down the list of registers and their functions of the basic computer. 2.5
- (d) What is pipelining technique ? Describe. 2.5
- (e) What is interrupt ? Explain types of interrupt. 2.5
- (f) Explain cache memory mechanism. 2.5

UNIT – I

2. Derive the circuits for a 3-bit parity generator and 4-bit parity checker using an even-parity bit. 15
3. What are computer registers ? How information is transfer from one register to another ? Explain control function. 15

UNIT – II

4. Explain Instruction Cycle with phases in detail with diagram. 15
5. What are the characteristics of RISC and CISC processors ? Also explain difference between RISC and CISC. 15

UNIT – III

6. Describe parallelism. What are its objectives ? Also explain pipelining technique. 15
7. How parallel processing enhances the system performance, explain ? 15

UNIT – IV

8. Explain the following : 15
 - (a) Asynchronous Data Transfer
 - (b) Software Interrupts
 9. Explain associative and direct mapped cache organization in detail. 15
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