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Reg. No. :

**Question Paper Code : 91394**

13/11/19  
FON

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019  
Third/Fifth/Sixth Semester  
Computer Science and Engineering  
CS 6303 – COMPUTER ARCHITECTURE  
(Common to Electronics and Communication Engineering/Electronics and  
Instrumentation Engineering/Instrumentation and Control Engineering/Robotics  
and Automation Engineering/Information Technology)  
(Regulations 2013)  
(Also Common to PTCS 6303 – Computer Architecture for B.E. Part-Time  
– Computer Science and Engineering – Second Semester, Fifth Semester –  
Electronics and Communication Engineering – Regulations 2014)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. List the operating systems functions.
2. Define performance.
3. Tell the principle of alignment restriction.
4. Identify the MIPS fields.
5. List the MIPS addressing modes.
6. Define Data Hazards.
7. Identify the MIPS instruction classification.
8. Draw the Program Execution Order.
9. Define Miss Penalty.
10. Tell about the EPC and Cause Register.

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PART – B

(5×13=65 Marks)

11. a) Describe the components of the computer with diagram.  
(OR)  
b) Explain the various types of addressing modes with example.
12. a) Illustrate about the Signed and Unsigned Numbers.  
(OR)  
b) Convert Binary to Hexadecimal and back analyze the design principles.
13. a) Analyze the working principles of multiplication operations.  
(OR)  
b) What are the various types of data hazards ? Explain with example.
14. a) Illustrate about the four states of the simple controller.  
(OR)  
b) Describe about the instruction level parallelism.
15. a) Explain about DMA and Interrupt with necessary diagram.  
(OR)  
b) Explain how Cache performance can be measured and improved.

PART – C

(1×15=15 Marks)

16. a) Analyze the process of reordering the code to avoid pipeline stalls.  
(OR)  
b) Analyze the compilation of floating-point C procedure with the example of Two-Dimensional Matrices.