



FAKULTI TEKNOLOGI DAN KEJURUTERAAN

PROGRAM	Diploma in Computer Network
COURSE NAME	Computer Organization
COURSE CODE	DNC 1023
CREDIT HOURS	3
SYNOPSIS	Knowledge on computer architecture were of paramount importance. Students have to understand building that obtained on a computer system whether rudiment or which could become choice in real by implementation organization. In architecture learning, emphasis is on physical and system components compilation. Student will be able to examine architecture need computer system that is effective to generate computer organization that is good.
COURSE STRUCTURE	
CHAPTER	TOPICS
1	Computer Organization Introduction 1.1 History and evolution of computer 1.1.1 Evolution before 1940 1.1.2 Evolution after 1940 1.1.3 Identify computer generation 1.1.4 Identify Moore's law 1.2 Identify and distinguish between of architecture and computer organization 1.3 Introduction of stored program concept 1.3.1 Recognize Von Neumann machine 1.3.2 Identify the characteristic of Von Neumann 1.3.3 Describe features of (IAS computer) 1.4 Describe features of IAS computer 1.5 Computer components 1.5.1 Describe computer systems 1.5.2 Identify the Control Processing Unit (CPU) 1.5.3 Identify the components in Control Unit 1.6 Structure and Function of The Computer 1.6.1 Describe concepts of the possible computer operations 1.6.2 Describe concepts of Top-level structure



<p>2</p>	<p>Data representation</p> <ul style="list-style-type: none"> 2.1 Number System 2.2 Identify and calculate Representatives signed and unsigned numbers 2.3 Identify and calculate Representatives 1's complement and 2's complement 2.4 Arithmetic of number systems <ul style="list-style-type: none"> 2.4.1 Binary arithmetic 2.4.2 Octal arithmetic 2.4.3 Hexadecimal arithmetic 2.4.4 Describe the calculation of IEE floating point
<p>3</p>	<p>Processor</p> <ul style="list-style-type: none"> 3.1 Describe the fundamental of CPU 3.2 Identify instruction execution 3.3 Identify the purpose of Control Unit system 3.4 Identify the internal bus
<p>4</p>	<p>Identify the instruction format</p> <ul style="list-style-type: none"> 4.1 Identify set command Identify basic concepts of instruction format 4.2 Identify concept of addressing mode <ul style="list-style-type: none"> 4.2.1 Draw the techniques of addressing model 4.2.2 Identify operand
<p>5</p>	<p>Memory</p> <ul style="list-style-type: none"> 5.1 Identify characteristic of memory systems <ul style="list-style-type: none"> 5.1.1 Identify features and hierarchical memory system 5.2 Identify types of Memory cache <ul style="list-style-type: none"> 5.2.1 Identify and distinguish types of Memory cache. 5.2.2 Design Direct Mapping
<p>6</p>	<p>Input and output</p> <ul style="list-style-type: none"> 6.1 Introduction of I/O <ul style="list-style-type: none"> 6.1.1 Block diagram of I/O 6.1.2 Identify I/O modules 6.2 Identify and distinguish the differences between I/O device and memory. 6.3 Identify the concept of I/O Interface 6.4 Describe I/O addressing <ul style="list-style-type: none"> 6.4.1 Describe the I/O Programmed 6.5 Interrupt-Driven I/O 6.6 Define data flow and operations input / output 6.7 Describe Direct Memory Access (DMA)



References:	<ol style="list-style-type: none">1. Godse, A.P. and Godse, D.A. (2019). Computer Organization and Architecture. Pune: Technical Publications.2. Stalling William (2016). Computer Organization and Architecture (10th Edition). Pearson3. David A. Patterson, John L. Hennesy (2017). Computer Organization and Design: The Hardware/Software Interface. Morgan Kauffman.
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