



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

COMPUTER SCIENCE AND ENGINEERING

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	COMPUTER ORGANIZATION AND ARCHITECTURE
Course Code	:	ACSB07
Program	:	B.Tech
Semester	:	IV
Branch	:	CSE IT
Academic Year	:	2019 - 2020
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COURSE OBJECTIVES:

The course should enable the students to:	
I	Understand the basic structure and operation of a digital computer.
II	Understand the operation of the arithmetic MODULE including the algorithms & implementation of fixed-point and floating-point addition, subtraction, multiplication & division.
III	Interpret the different types of control and the concept of pipelining.
IV	To study the different ways of communicating with I/O devices and standard I/O interfaces and RISC and CISC processors.
V	To study the hierarchical memory system including cache memories and virtual memory.

DEFINITIONS AND TERMINOLOGY QUESTION BANK

MODULE-I					
S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
1	What is ENIAC?	This is the first successful high speed electronic digital computer and used in 1946 to 1955 and its full form is Electronic Numeric Integrator and Calculator.	Understand	CO 1	ACSB07 .01
2	Define EDVAC ?	Electronic Discrete Variable Automatic Computer used by US Army between 1947 to 1950	Remember	CO 1	ACSB07 .01
3	What is UNIVAC?	Universal Automatic Computer developed in 1950.	Remember	CO 1	ACSB07 .01
4	What are second generation computers ?	Transistors, Vacuum tubes	Remember	CO 1	ACSB07 .01
5	What are Third generation computers?	Microchips and microprocessors	Remember	CO 1	ACSB07 .01
6	What are Fourth generation computers?	Personal Computers like notebook computers, laptops.	Remember	CO 1	ACSB07 .01

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
7	What does abbreviation VLSI mean?	VLSI stands for Very Large Scale Integration. This is a technology for producing complex electronic circuits in a very small area.	Remember	CO 1	ACSB07 .01
8	What is meant by processor level?	Processor Level environment variable indicates the model number of the CPU installed in the computer, including x86	Remember	CO 1	ACSB07 .01
9	What are the types of a system buses ?	Data bus –it carries data signals Address bus- it carries address signals Control bus- it carries control signals	Remember	CO 1	ACSB07 .01
10	What are the Characteristics of a System Bus ?	Bus Width Bus speed Bus Frequency	Remember	CO 1	ACSB07 .01
11	What are different types of interrupts?	Hardware Interrupts Software interrupts Mask able Interrupt Normal interrupts Exceptions	Remember	CO 1	ACSB07 .01
12	What is Data Representation?	Data representation refers to the internal method used to represent various types of data stored on a computer.	Remember	CO 1	ACSB07 .02
13	Define Fixed point number?	A fixed point number has a specific number of bits (or digits) reserved for the integer part (the part to the left of the decimal point) and a specific number of bits reserved for the fractional part	Understand	CO 1	ACSB07 .02
14	What is floating point number?	Floating Point. As the name implies, floating point numbers are numbers that contain floating decimal points.	Remember	CO 1	ACSB07 .02
15	Define instruction format ?	instruction format An instruction is normally made up of a combination of an operation code and some way of specifying an operand	Remember	CO 1	ACSB07 .02
16	Define the data processing instruction?	Data Processing Instructions contain arithmetic and Logic Instructions. That is, these instructions are used for arithmetic and logic operations in a machine.	Remember	CO1	ACSB07 .02
17	Define data storage and retrieval instructions?	Since Data Processing Operations are normally performed on the data in CPU register. Therefore, there is a need of an instructions to bring data to and from register. Such instructions are called Data Storage and Retrieval instructions.	Remember	CO 1	ACSB07 .02
18	Define data moment instructions?	these instructions are used to bring in programs and data from various devices (specifically Input) to memory or to communicate the result to the output device.	Remember	CO 1	ACSB07 .03
19	Define control flow instructions?	Control flow Instructions are used to control the flow of Instruction of a program.	Remember	CO 1	ACSB07 .03
20	Define Miscellaneous Instructions?	Example of these instructions are: Interrupt or Supervisory Call, Halt instruction or some or more instructions of operating system.	Remember	CO 1	ACSB07 .03
21	Define implied / implicit addressing mode?	Instructions itself specify the operands implicitly.	Remember	CO 1	ACSB07 .03
22	Define stack addressing mode?	The operand is contained at the top of the stack.	Remember	CO 1	ACSB07 .03
23	What is Immediate Addressing Mode?	The operand is specified in the instruction explicitly. Instead of address field, an operand field is present that contains the operand.	Remember	CO 1	ACSB07 .04
24	Define Direct Addressing Mode?	The address field of the instruction contains the effective address of the operand.	Remember	CO 1	ACSB07 .04
25	What is Indirect Addressing Mode?	The address field of the instruction specifies the address of memory location that contains the effective address of the operand.	Remember	CO 1	ACSB07 .04

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
26	Define Register Direct Addressing Mode?	The operand is contained in a register set. The address field of the instruction refers to a CPU register that contains the operand.	Remember	CO 1	ACSB07 .04
27	What is Register indirect addressing mode?	The address field of the instruction refers to a CPU register that contains the effective address of the operand.	Remember	CO 1	ACSB07 .04
28	Define addressing mode?	Effective Address= Content of Program Counter + Address part of the instruction.	Remember	CO 1	ACSB07 .04
29	What is Indexed addressing mode?	Effective Address= Content of Index Register + Address part of the instruction.	Remember	CO 1	ACSB07 .04
30	Define Base register addressing mode?	Effective Address= Content of Base Register + Address part of the instruction.	Remember	CO 1	ACSB07 .04
MODULE-II					
1	Define Throughput?	It is the total number of processes completed per MODULE time or rather say total amount of work done in a MODULE of time.	Remember	CO 2	ACSB07 .07
2	What is Overflow?	When the absolute value of the number is too high for the computer to represent it.	Remember	CO 2	ACSB07 .05
3	Define Underflow?	The absolute value of the number is too close to zero for the computer to represent it.	Remember	CO 2	ACSB07 .05
4	What is Turnaround Time?	It is the amount of time taken to execute a particular process,i.e. The interval from time of submission of the process to the time of completion of the process (Wall clock time).	Remember	CO 2	ACSB07 .07
5	Define Waiting Time?	The sum of the periods spent waiting in the ready queue Amount of time a process has been waiting in the ready queue to acquire get control on the CPU.	Remember	CO 2	ACSB07 .07
6	What is Load Average?	It is the average number of processes residing in the ready queue waiting for their turn to get into the CPU.	Remember	CO 2	ACSB07 .06
7	Define Response Time?	Amount of time it takes from when a request was submitted until the first response is produced. Remember, it is the time till the first response and not the completion of process execution(final response)	Remember	CO 2	ACSB07 .07
8	What is Signed Division?	We negate the quotient if the signs of the divisor and dividend disagree. The remainder and the dividend must have the same signs.	Remember	CO 2	ACSB07 .05
9	Define Combinational Circuits?	1. Combinational Circuits are made of logic gates. 2. Doesn't contain memory element, that's why they can't store any information 3. Value of present output is determined by present input. 4. Examples of combinational circuits are half adders, full adders, sub tractors etc.	Remember	CO 2	ACSB07 .05
10	What is Multiplexer?	A multiplexer is a combinational circuit where binary information from one of many input lines is selected and directs it to a single output line.	Remember	CO 2	ACSB07 .05
11	Define Demultiplexer?	Demultiplexing is the reverse process of multiplexing; i.e., a Demultiplexer is a combinational circuit that receives information on a single line and transmits this information on one of the possible output lines.	Remember	CO 2	ACSB07 .05
12	What is Encoder?	An encoder is a combinational circuit that Produces the reverse function from that of a Decoder.	Remember	CO 2	ACSB07 .05
13	Define Decoder?	Decoder is a combinational logic circuit that receives coded information on n input lines and feeds them to maximum of an unique output lines after conversion.	Remember	CO 2	ACSB07 .05

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14	What is Half Adder?	A half-adder is a combinational circuit that performs the addition of two bits.	Remember	CO 2	ACSB07 .05
15	Define Full Adder?	This type of adder is a little more difficult to implement than a half-adder. The main difference between a half-adder and a full adder is that the full-adder has three inputs and two outputs.	Remember	CO 2	ACSB07 .05
16	What is Sequential ALU's?	An ALU is the fundamental MODULE of any computing system. Understanding how an ALU is designed and how it works is essential to building any advanced logic circuits.	Remember	CO 2	ACSB07 .05
17	Define Flip-Flops?	Flip-Flops are the basic building blocks of sequential circuits. A flip-flop is a binary cell which can store a bit of information.	Remember	CO 2	ACSB07 .05
18	What is Registers?	It is a group of flip-flops.	Remember	CO 2	ACSB07 .05
19	Define Counters?	It is essentially a register that goes through a predetermined sequence of states.	Remember	CO 2	ACSB07 .05
20	What is Synchronous Sequential Circuits?	In synchronous sequential circuits, the state of the device changes only at discrete times in response to a clock Pulse.	Remember	CO 2	ACSB07 .06
21	Define Asynchronous Sequential Circuits?	Asynchronous circuit is not synchronized by a clock signal; the outputs of the circuit change directly in response to changes in Inputs.	Remember	CO 2	ACSB07 .06
22	What is Carry Look-ahead Adder?	A carry look-ahead adder reduces the propagation delay by introducing more complex hardware.	Remember	CO 2	ACSB07 .06
23	Define Booth Algorithm?	It can be defined as an algorithm or method of multiplying binary numbers in two's complement notation. It is a simple method to multiply binary numbers in which multiplication is performed with repeated addition operations by following the booth algorithm.	Remember	CO 2	ACSB07 .06
24	What is Modified Booth's Algorithm?	Booth multiplication algorithm consists of three major steps as shown in the structure of booth algorithm figure that includes generation of partial product called as recoding, reducing the partial product in two rows, and addition that gives final product.	Remember	CO 2	ACSB07 .08
25	Define Robertson Algorithm?	Recall that the 'pencil-and-paper' algorithm is in that each product term (obtained by multiplying each bit of the multiplier to the multiplicand) has to be saved till all such product terms are obtained.	Remember	CO 2	ACSB07 .06
26	What is Control MODULE Function?	It interfaces the coprocessor to the microprocessor – system data bus. Monitors the instruction stream. If the instruction is an Escape (coprocessor) instruction, the coprocessor executes it; if not the microprocessor executes it. It receives, decodes instructions, read and write memory operand sand executes the 8087 instruction.	Remember	CO 2	ACSB07 .06
27	Define Numeric Execution MODULE (NEU) Functions?	Execute all the numeric processor instructions. It has 8 register (80 bit) stacks that hold the operands for arithmetic instructions & the result. Instruction either address data in specific stack data – register or uses push and pop mechanism to store or retrieve data.	Remember	CO 2	ACSB07 .05

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28	What is Graphics Coprocessor?	A graphics coprocessor maybe incorporated into a graphics accelerator, or may be part of a separate subsystem. Also called graphics processor.	Remember	CO 2	ACSB07 .07
29	Define Nano Programming?	the micro instructions are not directly used by the decoder to generate control signals. This is achieved by the use of a second control memory called a Nano control memory (nCM).	Remember	CO 2	ACSB07 .07
30	What is Coprocessor Control Instructions?	The coprocessor has control instructions for initialization, exception handling, and task switching.	Remember	CO 2	ACSB07 .07
MODULE-III					
1	List out the basic approaches to design a control MODULE?	The two basic approaches to design a control MODULE are: 1. Hardwired control 2. Micro programmed control	Remember	CO 3	ACSB07 .09
2	List out the two parts of a digital system?	It is useful to separate a digital system into two parts: 1. Data path (data processing)MODULE 2. Control MODULE	Remember	CO 3	ACSB07 .09
3	What is the function of data path(data processing) MODULE?	The data path is a network of functional and storage MODULEs capable of performing certain micro operations on data words.	Remember	CO 3	ACSB07 .09
4	What is the purpose of control MODULE?	The purpose of the control MODULE is to issue control signals to the data path to perform the specified task.	Understand	CO 3	ACSB07 .10
5	Define Micro program?	A sequence of micro-instructions is called a micro-program, which is stored in a ROM or RAM called a Control Memory (CM).	Remember	CO 3	ACSB07 .10
6	Define Micro operation?	Micro operations are the basic operations that can be performed by a system on data stored in registers. Each micro operation describes a simple operation performed on data in one or more registers.	Remember	CO 3	ACSB07 .10
7	Define Microinstruction?	Individual control words in the micro-routine are referred to as microinstructions.	Remember	CO 3	ACSB07 .10
8	Define Control word?	A control word is a word whose individual bits represent various control signals.	Remember	CO 3	ACSB07 .10
9	What is Control store?	The micro-routines for all instructions in the instruction set of a computer are stored in a special memory called the Control Store(Control Memory).	Remember	CO 3	ACSB07 .10
10	What is Moore machine?	A Moore machine is a finite-state machine whose output values are determined solely by its current state.	Remember	CO 3	ACSB07 .09
11	What is Mealy machine?	A Mealy machine is a finite-state machine whose output values are determined both by its current state and the current inputs.	Remember	CO 3	ACSB07 .09
12	How the control signals are generated in Hardwired control?	Hardwired control MODULE generates the control signals needed for the processor using logic circuits	Remember	CO 3	ACSB07 .10
13	How the control signals are generated in Micro programmed control?	Micro programmed control MODULE generates the control signals with the help of micro instructions stored in control memory	Remember	CO 3	ACSB07 .10

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14	List out the types of Microinstructions ?	Microinstructions are commonly divided into two types. They are: Horizontal Microinstructions Vertical Microinstructions	Remember	CO 3	ACSB07 .09
15	What are the characteristics of Horizontal Microinstructions?	The characteristics of Horizontal Microinstructions are: Long formats. Ability to express a high degree of parallelism. Little encoding of the control information.	Remember	CO 3	ACSB07 .09
16	What are the characteristics of Vertical Microinstructions?	The characteristics of Vertical Microinstructions are: Short formats. Limited ability to express parallel micro operations. Considerable encoding of the control information.	Remember	CO 3	ACSB07 .11
17	What is the function Program Counter?	It keeps track of which instruction is being executed and what the next instruction will be.	Remember	CO 3	ACSB07 .11
18	What is the function MAR?	Memory Address Register (MAR) is used to store the address field of the current instruction or the data to be fetched to the CPU.	Remember	CO 3	ACSB07 .11
19	Define pipelining?	Pipelining is a process of arrangement of hardware elements of the CPU such that its overall performance is increased. Simultaneous execution of more than one instruction takes place in a pipelined processor.	Remember	CO 3	ACSB07 .11
20	What is Arithmetic pipeline?	Arithmetic pipelines are usually found in most of the computers. They are used for floating point operations, multiplication of fixed point numbers.	Remember	CO 3	ACSB07 .11
21	What is instruction pipeline?	In this a stream of instructions can be executed by overlapping fetch, decode and execute phases of an instruction cycle. This type of technique is used to increase the throughput of the computer system.	Remember	CO 3	ACSB07 .11
22	What is the function of superscalar processing?	A superscalar processor is a specific type of microprocessor that uses instruction-level parallelism to help to facilitate more than one instruction executed during a clock cycle.	Remember	CO 3	ACSB07 .11
23	List out the stages in instruction pipeline?	Instruction fetch Instruction decode and register fetch Execute Memory access Register write back	Remember	CO 3	ACSB07 .12
24	What is register renaming?	Register renaming is a form of pipelining that deals with data dependences between instructions by renaming their register operands.	Remember	CO 3	ACSB07 .12
25	What is branch prediction?	Branch prediction is an approach to computer architecture that attempts to mitigate the costs of branching. Branch predication speeds up the processing of branch instructions with CPUs using pipelining.	Remember	CO 3	ACSB07 .12
26	What is the purpose of Branch Target Buffer(BTB)?	A branch target buffer is a buffer that is indexed by the branch instruction address with a tag for remaining bits.	Understand	CO 3	ACSB07 .12
27	List out the types of pipeline?	It is divided into 2 categories: Arithmetic Pipeline Instruction Pipeline	Remember	CO 3	ACSB07 .12
MODULE-IV					
1	Define user space?	User space is system memory allocated to running applications. It is often contrasted with kernel space, which is memory allocated to the kernel and the operating system.	Remember	CO 4	ACSB07 .14

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2	Define system space?	The large block of addresses, known as system space, cannot be directly accessed by the application.	Remember	CO 4	ACSB07 .15
3	List out the methods to access information from memory locations?	Following are the methods to access information from -memory locations. -Random Access -Sequential Access -Direct Access	Remember	CO 4	ACSB07 .14
4	What is Main Memory?	The memory MODULE that communicates directly within the CPU, Auxiliary memory and Cache memory, is called main memory	Remember	CO 4	ACSB07 .14
5	List out Types of ROM ?	Types of ROM: a) PROM(Programmable ROM) b)EPROM(Erasable PROM) and c)EEPROM(Electrically Erasable PROM)	Remember	CO 4	ACSB07 .14
6	What is Auxiliary Memory	Devices that provide backup storage are called auxiliary memory.	Remember	CO 4	ACSB07 .14
7	Define Hit Ratio ?	The performance of cache memory is measured in terms of a quantity called hit ratio. When the CPU refers to memory and finds the word in cache it is said to produce a hit. If the word is not found in cache, it is in main memory then it counts as a miss. The ratio of the number of hits to the total CPU references to memory is called hit ratio. $\text{Hit Ratio} = \text{Hit} / (\text{Hit} + \text{Miss})$	Remember	CO 4	ACSB07 .14
8	What are the examples of Serial Access Devices?	Old recording media such as CDs, DVDs, and magnetic tapes are examples of sequential access memory drives. Hard drive is also an example of sequential access memory. Examples of random access memory include memory chips and flash memory (such as memory sticks or memory cards).	Remember	CO 4	ACSB07 .14
9	What are the advantages of CD ROM	Advantages of CD ROM are: Storage capacity is high. Data storage cost per bit is reasonable. Easy to carry. Can store variety of data.	Remember	CO 4	ACSB07 .15
10	Define WORM?	WORM or Write Once Read Many or CD-R or CD-Recordable are a kind of optical device which provides the user the liberty to write once on the CD R.	Remember	CO 4	ACSB07 .15
11	What are advantages of WORM?	Advantages of WORM: Storage capacity is high. Can be recorded once. Reliable. Runs longer. Access time is good.	Remember	CO 4	ACSB07 .15
12	Define Erasable Optical Disk?	Erasable Optical Disks are also called CD RW or CD rewritable. It gives the user the liberty of erasing data already written by burning the microscopic point on the disk surface.	Remember	CO 4	ACSB07 .15
13	List out Memory allocation ?	Memory allocation has two core types; 1. Static Memory Allocation: The program is allocated memory at compile time. 2. Dynamic Memory Allocation: The programs are allocated with memory at runtime.	Remember	CO 4	ACSB07 .15
14	What is process of Non Preemptive allocation:	Consider M1 as a main memory and M2 as secondary memory and a block K of n words is to be transferred from M2 to M1. For such memory allocation it is necessary to find or create an available region of n or more words to accommodate K. This process is known as non-preemptive allocation.	Remember	CO 4	ACSB07 .14
15	Define Random Access ?	Random access is a main memories are random access memories, in which each memory location has a unique address. Using this unique address any memory location can be reached in the same amount of time in any order	Remember	CO 4	ACSB07 .15

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
16	What is Sequential Access ?	Sequential access methods allows memory access in a sequence or in order.	Remember	CO 4	ACSB07 .14
17	Define Direct Access?	In Direct access, information is stored in tracks, with each track having a separate read/write head.	Remember	CO 4	ACSB07 .15
18	What Key Register(K) specify?	Key Register(K) specifies which part of the argument word needs to be compared with words in memory. If all bits in register are 1, The entire word should be compared. Otherwise, only the bits having k bit set to 1 will be compared.	Remember	CO 4	ACSB07 .14
19	What are methods of dynamic memory allocation?	There are two methods which are used for dynamic memory allocation: Non-Preemptive Allocation preemptive Allocation	Remember	CO 4	ACSB07 .15
20	How Optical Memories are used?	Optical memories are used for large, storage of data. These devices provide the option of variety of data storage. These can save up to 20 GB of information. The data or information is read or written using a laser beam.	Remember	CO 4	ACSB07 .15
21	Define PROM ?	A programmable read-only memory (PROM) is a form of digital memory where the setting of each bit is locked by a fuse or antifuse. It is one type of ROM	Remember	CO 4	ACSB07 .15
22	What is EPROM?	An EPROM (rarely EROM), or erasable programmable read-only memory, is a type of programmable read-only memory (PROM) chip that retains its data when its power supply is switched off. Computer memory that can retrieve stored data after a power supply has been turned off and back on is called non-volatile.	Remember	CO 4	ACSB07 .14
23	Define EEPROM	electrically erasable programmable read-only memory and is a type of non-volatile memory used in computers, integrated in microcontrollers for smart cards and remote keyless systems, and other electronic devices to store relatively small amounts of data but allowing individual bytes to be erased and reprogrammed.	Remember	CO 4	ACSB07 .15
24	What is Associative Memory	An associative memory can be considered as a memory MODULE whose stored data can be identified for access by the content of the data itself rather than by an address or memory location.	Remember	CO 4	ACSB07 .15
25	Define Sequential access memory ?	Sequential access memory (SAM) is a class of data storage devices that read stored data in a sequence. This is in contrast to random access memory (RAM) where data can be accessed in any order. Sequential access devices are usually a form of magnetic storage or optical storage.	Remember	CO 4	ACSB07 .15
26	Define Magnetic storage ?	Magnetic storage or magnetic recording is the storage of data on a magnetized medium. Magnetic storage uses different patterns of magnetization in a magnet sable material to store data and is a form of non-volatile memory. The information is accessed using one or more read/write heads.	Remember	CO 4	ACSB07 .14
27	What is Basic sequential access method ?	Basic sequential access method (BSAM)[1] is an access method to read and write datasets sequentially.	Remember	CO 4	ACSB07 .15
28	What is Associative Mapping ?	The associative memory stores both address and data. The address value of 15 bits is 5 digit octal numbers and data is of 12 bits word in 4 digit octal number. A CPU address of 15 bits is placed in argument register and the associative memory is searched for matching address.	Remember	CO 4	ACSB07 .14

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
29	Define Virtual Memory?	Virtual memory is the separation of logical memory from physical memory. This separation provides large virtual memory for programmers when only small physical memory is available.	Remember	CO 4	ACSB07 .14
30	What is Direct Memory Access?	Removing the CPU from the path and letting the peripheral device manage the memory buses directly would improve the speed of transfer. This technique is known as DMA.	Remember	CO 4	ACSB07 .15
MODULE-V					
1	Define Data bus?	If the sample size is less than 30 then it is called as small sample. Data bus carries data from on component to another. It is uni-directional for input and output devices and bidirectional for memory and CPU.	Remember	CO 5	ACSB07 .17
2	What is Control bus?	Control bus carries control signal. CU of CPU uses control signal for controlling all the components. It is unidirectional from CPU to all other components.	Remember	CO 5	ACSB07 .17
3	Define Address bus?	Address bus carries memory address. A memory address is a numerical value used for identifying a memory location. Computer performs all its task through the memory address. CU of CPU sends memory address to all the components. So, address bus is also uni-directional from CPU to all other components.	Remember	CO 5	ACSB07 .17
14	What is Strobe?	A pulse supplied to indicate the time at which data is being transmitted.	Remember	CO 5	ACSB07 .17
15	Define Handshaking?	A control signal is transmitted along with the data; another signal is sent by the receiver.	Remember	CO 5	ACSB07 .17
16	What is Bus Arbitration?	The arbitration procedure comes into picture whenever there are more than one processors requesting the services of bus. Because only one MODULE may at a time be able to transmit successfully over the bus, there is some selection mechanism is required to maintain such transfers. This mechanism is called as Bus Arbitration.	Remember	CO 5	ACSB07 .17
17	Define Distributed Arbitration?	In distributed arbitration, all devices participate in the selection of the next bus master. In this scheme each device on the bus is assigned a4-bit identification number. The number of devices connected on the bus when one or more devices request for the control of bus, they assert the start- arbitration signal and place their 4-bit ID numbers on arbitration lines, ARB0 throughARB3.	Remember	CO 5	ACSB07 .17
18	What is Interrupts?	When I/O Device is ready, it sends the INTERRUPT signal to processor via a dedicated controller line. Using interrupt we are ideally eliminating WAIT period.	Remember	CO 5	ACSB07 .18
19	Define Parallel Port?	It transfers data simultaneously to (or) from the device. It uses multiple pin connector. Circuit is simple. Parallel port is used to send (or) receive data having group of bits(8 bits or 16 bits) simultaneously.	Remember	CO 5	ACSB07 .18
20	What is Serial port?	It transmits and receives data one bit at a time. For long distance, it is convenient and cost effective. It is used to transmit/ receive data serially. i.e one at a time. A key feature of an interface circuit in serial port is that it is capable of communicating in a bit-serial on the device side and in a bit-parallel on the bus side.	Remember	CO 5	ACSB07 .18

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
21	Define Input port?	Commonly used i/p device is a keyboard. A key is pressed , corresponding signal alters and encoder circuits generates ASCII code for the corresponding key.	Remember	CO 5	ACSB07 .18
22	What is Output port?	The output port contains a data register DATA OUT and a status flag SOUT.SOUT set to 1- when output device ready to accept another character. When it is cleared to 0then The processor load the data.	Remember	CO 5	ACSB07 .18
23	Define Handshaking?	The handshaking method solves the problem of strobe method by introducing a second control signal that provides are ply to the MODULE that initiates the transfer.	Remember	CO 5	ACSB07 .18
24	What is Input/output Processor?	An input-output processor (IOP) is a processor with direct memory access capability. In this, the computer system is divided into a memory MODULE and number of processors. Each IOP controls and manage the input-output tasks.	Remember	CO 5	ACSB07 .19
25	Define Process?	A process is basically a program in execution. The execution of a process must progress in a sequential fashion. A process is defined as an entity which represents the basic MODULE of work to be implemented in the system.	Remember	CO 5	ACSB07 .19
26	Define Multiprocessors?	A multiprocessor system is an interconnection of two or more CPU's with memory and input- output equipment. Multiprocessors system are classified as multiple instruction stream, multiple data stream systems(MIMD).	Remember	CO 5	ACSB07 .19
27	What is Rollback?	In situations where deadlock is a real possibility, the system can periodically make a record of the state of each process and when deadlock occurs, roll everything back to the last checkpoint, and restart, but allocating resources differently so that deadlock does not occur.	Remember	CO 5	ACSB07 .19
28	Define Tightly Coupled System/Shared Memory?	1. Tasks and/or processors communicate in a highly synchronized fashion 2. Communicates through a common global shared memory 3. Shared memory system doesn't preclude each processor from having its own local memory(cache memory)	Remember	CO 5	ACSB07 .19
29	What is Loosely Coupled System/Distributed Memory?	1. Tasks or processors do not communicate in a synchronized fashion. 2. Communicates by message passing packets consisting of an address, the data content, and some error detection code. 3. Overhead for data exchange is high. 4. Distributed memory system	Remember	CO 5	ACSB07 .19
30	Define Uniform Memory?	1. All processors take the same time to reach all memory locations Non uniform (NUMA)Memory. 2. Memory access is not uniform.	Remember	CO 5	ACSB07 .19
31	What is RISC processors?	RISC (Reduced Instruction Set Computer) is used in portable devices due to its power efficiency. For Example, Apple iPod and Nintendo DS. RISC is a type of microprocessor architecture that uses highly optimized set of instructions.	Remember	CO 5	ACSB07 .19
32	Define CISC Processors?	The CISC approach attempts to minimize the number of instructions per program, sacrificing the number of cycles per instruction. Computers based on the CISC architecture are designed to decrease the memory cost. Because, the large programs need more storage, thus increasing the memory cost and large memory becomes more expensive.	Remember	CO 5	ACSB07 .19

S.No	QUESTION	ANSWER	Blooms Level	CO	CLO Code
33	What is Addressing Modes?	Addressing modes are the manner in the data is accessed. Depending upon the type of instruction applied, addressing modes are of various types such as direct mode where straight data is accessed or indirect mode where the location of the data is accessed.	Remember	CO 5	ACSB07 .20
34	Define SIMD Array Processors?	SIMD is the organization of a single computer containing multiple processors operating in parallel.	Remember	CO 5	ACSB07 .20
35	What is Vector (Array) Processing?	There is a class of computational problems that are beyond the capabilities of a conventional computer. These problems require vast number of computations on multiple data items, that will take a conventional computer(with scalar processor) days or even weeks to complete.	Remember	CO 5	ACSB07 .20

Signature of the Faculty

HOD, CSE

