17UIT3A3 - MICROPROCESSOR & ALP

K1 LEVEL

UNIT - I

1.The CPU of a digital computer built into a single IC is called_____

a)processor b)multiprocessor c)microprocessor d)microprogramming

ans:c)microprocessor

2. In 1985, Intel introduced a more powerful 32 bit microprocessor called_____

a)Intel 486 b)Intel 386 c)Intel 4040 d)Intel 8086

ans: a)Intel 386

3. _____ was the first digital signal processing chip.

a)Intel 2902 b)Intel 2920 c)Intel 2900 d)Intel 2930

ans: b)Intel 2920

4. Embedded control applications has two distinct areas of control named _____ and _____

a)digital control, chip control b)process control, design control

c)event control, data control c)connection control, block control

ans: c)event control, data control

5. AMD produces _____ family of bit-slice microprocessor components to built a bit-slice processor.

a)2910 b)2900 c)2930 d)2901

ans: b)2900

6. In a computer having a microprogrammed control unit, the instruction of another computer can be executed is known as_____

a)microprogram b)microinstruction c)microprogramming

d)emulation

ans: d)emulation

7. Large cache is employed in _____

a)CISC processor b)scalar processor c)RISC processor

d)superscalar processor

ans: c)RISC processor

8. CISC stands for _____

a)Complex Instruction Standard Computer

b)Complex Integrated Set Computer

c)Complex Instruction Set Computer

d)Control Instruction Set Computer

ans: c)Complex Instruction Set Computer

9. A superscalar processor contains _____and executes more than one instruction per clock cycle.

a)vector operands b)multiplepipelines c)control memory

d)host processor

ans: b)multiple pipelines

10. An array of operands of the same type is called a_____

a)vector b)scalar c)co-processor d)multiplexer

ans: a)vector

UNIT - II

11._____ is one of the special purpose register.

a)CX b)AH c)BL d)SI

ans: a)CX

12.Segment registers are divided into _____ types.

a)3 b)4 c)5 d)6

ans:a)3

13._____ flag is used for single step control.

a)overflow b)Directional c)Trap d)Sign

ans: c)Trap

14. While EU executes instructions , the BIU fetches instruction codes from _____ .

a)processor b)pipeline c)memory d)queue

ans: c)memory

15. The way by which an operand is specified for an instruction is called _____.

a)Based Addressing mode b)Addressing mode c)Indexed Addressing mode d)Direct addressing mode

ans:Addressing mode.

16._____ is the example of data movement group.

a)JMP b)RCL c)POP d)XOR

ans:pop

17._____ is used in the instruction code to specify the addressing mode.

a) bit b)byte c)Megabyte d)Kilobit

ans: b)byte

18._____ field specifies the addressing mode for a register or memory operand.

a)mod b)reg c)r/m d)bit

ans: c)r/m

19._____ register is used while computing the address for data residing in a memory location.

a)stack segment b)extra segment c)data segment d)code segment

ans: c)data segment

20. If the value for rr is 10 then selected segment register is _____.

a)DS b)SS c)CS d)ES

ans: b)SS

UNIT - III

21. Intel 386 and 486 are _____ bit.

a)16 b)32 c)64 d)128

ans: b)32

22.Intel 386 was introduced in _____

a)1983 b)1988 c)1975 d)1985

ans: d)1985

23. 486 DX architecture contains _____ functional units.

a)7 b)8 c)9 d)10

ans: c)9

24.The segmentation unit translates logical address into _____

a)physical address b)effective address c)linear address

d)current address

ans: c)linear address

25.The 486 microprocessor contains _____ 16-bit segment registers.

a)4 b)5 c)6 d)7

ans: c)6

26. The 486 microprocessor has _____ types of operating mode.

a)2 b)3 c)4 d)5

ans:2

27.The capacity of RAM and ROM present in the system is called _____

a)cache memory b)physical memory c)control memory

d)main memory

ans: b)physical memory

28. The _____ is the base address of a segment plus an offset within the segment.

a)physical address b)logical address c)effective address

d)linear address

ans: d)linear address

29.In real mode, the memory addressing capacity is _____

a)5MB b)1MB c)2MB d)3MB

ans: b)1MB

30. The page oriented system is also known as_____

a)page mapping b)paged flat model c)paging

d)desired segment

ans: b)paged flat model

UNIT - IV

31. In 486 microprocessor the remaining nine addressing modes are to specify_____

a)memory operands b)segments c)offset d)register

ans: a)memory operands

32. The _____ is an offset within the segment with respect to the starting address (base address) of the segment.

a)register address b)memory address c)effective address

d)index address

ans: c)effective address

33. LOCK#.Output and BLAST#.Output are the_____

a)pin configuration b)signals c)both (a) and (b)

d)none

ans: b)signals

34. NMI is an _____ interrupt.

a)hardware interrupt b)maskable interrupt c)software interrupt d)non maskable interrupt

ans: d)non maskable interrupt

35. TDI is expanded as _____

a)Trap Data Input b)Test Data I/O c)Test Data Input

d)none

ans: c)Test Data Input

36. RESET input is to reset the_____

a)386 microprocessor b)486 microprocessor c)both (a) and (b) d)None

37.The computer that stores the pronunciation along with the matching word. This computerized match is known as a _____

a)voice-template b)voice-recorder c)microphone d)none

ans: a)voice-template

38. CRT is used in_____

a)Input device b)output device and input device c)output device d)analog convertor

ans: c)output device

39. Motorola 6845 uses _____ external memory chips.

a)3 b)5 c)4 d)2

ans: d)2

40. _____ is a graphic coprocessor and contains DRAM/VRAM

a)Motorola 6845 b)Intel 82786 c)VRAM d)other processor

Comment [s1]: ode

ans: b)Intel 82786

UNIT - V

41. The 68000 has a _____ status flag register.

a)4-bit b)8-bit c)16-bit d)32-bit

ans: c)16-bit

42. The ADC 0808/ADC 0809 does not accept _____ values of voltage.

a)positive b)negative c)both (a) and (b)

d)none

ans: b)negative

43. The output of the summing circuit is applied to an inverter. The output of the inverter is _____

a)$V_0=-V_{ac/2}+2.5$ b)$V_b=V_{ac/2}+2.5$ c)$V_0=V_{ac/2}+2.5$

d)$V_0=V_{ac/2}+2.5$

ans: $V_0=V_{ac/2}+2.5$

44. The input signals to the electronic circuit may have _____

a)negative value b)positive value c)bipolar d)none

ans: c)bipolar

45. Analog multiplexer is required to process _____

a)multiple signals b)single signals c)both (a) and (b)

d)digital signal

ans: a)multiple signals

46. V_{ref} is used in _____

a)Interfacing of ADC 0809 b)sample and hold circuit

c)bipolar to unipolar convertor d)none

ans: a)Interfacing of ADC 0809

47. The analog voltage applied in dc volts for testing is -5V then digital output of ADC is _____

a)17 b)30 c)E3 d)00

ans: d)00

48. Input ac signal V_{ac} is -0V then the output of bipolar to unipolar convertor is _____

a)2.0V b)2V c)2.5V d)00

ans: c)2.5V

49. To process a ac signal _____ is required.

a)unipolar to bipolar convertor b)Interfacing of ADC 0809

c)Measurement and control of temperature d)sample and hold circuit

ans: d)sample and hold circuit

50. Cyrix has designed _____ microprocessor which is manufactured by IBM.

a)6X86MX b)6X76MX c)6X78MX

d)7X86MX

ans: a)6X86MX

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K2 LEVEL

UNIT-1

1. Define microprocessor.

Ans:The central processing unit of a digital computer, built into a single IC is called microprocessor.

2. Recall the concept of multiprocessor.

Ans: A computer whose CPU contains more than one microprocessor is called a multiprocessor system.

3.Which year Intel 8008 was introduced?

Ans:1972

4.Expand PMOS.

Ans: Positive Metal Oxide Semiconductor.

5. List out any 5 32-bit microprocessor.

Ans:Intel 486, Pentium, Pentium II, Pentium III, Pentium Pro, Pentium IV.

6.Tell the use of Intel i860.

Ans: It was used for Industrial control application.

7.List the embedded control application.

Ans:event control and data control.

8. How many family is produced by AMD?
Ans: 2900

9.List out the bit slice processors.

Ans: AMD 2901, AMD 2903, AMD 2902,AMD 2909,AMD 2910.

10.Describe about RISC design.

Ans:The design of the control unit based on the hardware approach I is called RISC design.

UNIT-II

11.What are group of fields in a instruction?

Ans: opcode and operand

22.Define instruction set.

Ans: The collection of instructions that a microprocessor is designed to execute, is known as instruction set of that microprocessor.

13.List out any 5 8086 instruction groups.

Ans: Arithmetic group, Logical group, Data movement group, Interrupt group, String primitive group.

14. What is the expansion of reg?

Ans: register.

15. What is the need of segment register.

Ans: Segment register is needed to provide the starting address for the memory segment.

16. Show the use of code segment.

Ans: The code segment register is used while computing the address for instruction bytes.

17. What is the use of data segment.

Ans: The data segment register is used while computing the address for the data residing in a memory location.

18. Describe the use of stack segment.

.Ans: The stack segment register is used for stack reference instructions (i.e PUSH and CALL).

19.Describe the use of extra segment.

Ans: The extra segment register is used for the destination of data in case of string operation.

20. List out the MOV instruction.

Ans: MOV reg,data , MOV mem/reg,data , MOV ac/mem , MOV mem/reg_1,mem/reg_2.

UNIT-III

21. Which year Intel 386 was developed?

Ans: 1985.

22. How many 32-bit general purpose registers are present in Intel 386?

Ans: 8.

23. List out the 32-bit general purpose registers of Intel 386.

Ans: EAX,EBX,ECX,EDX,ESI,EDI,EBP,ESP.

24. List the versions of Intel 386.

Ans: 386DX, 386SX, 386SL.

25. List any three functional units of 486DX architecture.

Ans: Bus interface unit, Execution unit, Paging unit.

26. Expand MMU.

Ans: Memory Management Unit.

27..Explain the function of segmentation unit.

Ans:The segmentation unit translates the logical address into linear address.

28. Explain the function of Paging unit.

Ans: The paging unit translates linear address into physical address.

29. List out any 5 flags of Intel 486.

Ans: Carry flag, Parity flag, Zero flag, Sign flag, Overflow flag.

30. How many types of operating modes in Intel 486.

UNIT - IV

31. Define vice template. Ans: The computer will store the pronounciation along with the matching word.Which is displayed on the screen. This computerised match is known as a voice-template.

32. CRT screen and printers are the example of which device? Ans: Output devices.

33. What colours are used to produce colour display in phosphors.

34. List the type of printers. Ans: a) dot matrix impact type printer b) Laser printer c) Inkjet printer.

35. What is burst mode data transfer? Ans: The DMA scheme in which the I/O device releases the system buses only after transferring all the data bytes is called burst mode datatransfer.

36. List out some of the major functional units of PowerPC 601. Ans: a) Instruction unit b) Floating-Point Unit c) Integer Unit d) Memory Management Unit.

37. What is the bit allocation of PowerPC602? Ans: It is a 32-bit microprocessor.

38. List out some of the functional units of PowerPC603. Ans: a) instruction unit b) integer unit c) Completion unit d) Floating-point unit.

39. List some of the execution unit of PowerPC604. Ans: a) Instruction unit b) Two Single-Cycle Integer Unit(SCIU) c) Floating-point unit d) Load/Store Unit

40. Power PC620 is what processor and write its bit value. Ans: RISC microprocessor and 64-bit.

UNIT - V

41. What is superscalar architecture? Ans: The Pentium has superscalar architecture which is generally, provided in a RISC microprocessor.

42. What is Dual pipelines? Ans: The dual pipelines are also called as U-pipeline and V-pipelinne.

43. Define is dynamic execution technology. Ans: The Pentium Pro has ability to execute instructions in any order by predicting program flow.It selects the best order to execute

instructions after analysing the program’s data flow.this is called dynamic execution technology.

44. Expansion MMX. Ans: Multimedia Extension.
45. What is the bit value of quad word ? Ans: One 64-bit quantity.
46. SIMD stands for? Ans: single instruction multiple data.
47. PARAM 10000 uses what processor? Ans: ULTRASPARC III processor.
48. Write two modes of Operating modes. Ans: User and supervisory modes.
49. Write some of the addressing modes of 6800.

    Ans: Direct addressing, Immediate addressing , Register addressing , Register indirect addressing. Is i3 is good enough? Ans: It is low power, Economical entries in intelslineup, Desktop users don’t need to worry about battery life, so more powerful core i5 processor is a good choice.

50. Exapnd : PC/AT & PC/XT

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K3 LEVEL

UNIT-I

1. Categorize the concept of Evaluation of microprocessor.

2. Analyze the concept of Microcontroller.

3. Distinguish between scalar and superscalar processors.

4. Examine the features of RISC microprocessor.

5. Discover the concept of embedded microprocessors.

UNIT-II

1. Classify the types of instruction groups of 8086.

2. Analyze about segment register selection.

3. Examine the concept of segment override.

4. Inspect about MOV instruction with example.

5. Inspect about ADD instruction with example.

UNIT-III

1. Analyze about Memory Management Unit.

2. Write about the function of using Protection in MMU.

3. Analyze about gates and classify its types.

4. Categorize the addressing modes of 80486.

5. List out and explain the signals of 80486.

UNIT-IV

1. Analyze the programmable I/O ports with its schematic Diagram.

2. Describe briefly about DMA Data Transfer.

3. Explain about Power Pc Microprocessors.

4. Categorize the Memory organization and Addressing modes of Power PC Microprocessor.

5. Explain about Pentium Microprocessor.

UNIT-V

1) Classify about dual and quad core processor.
2) Compare and Contrast between octa , penta core and quad core processor.
3) Analyze about Bipolar to unipolar converter.
4) Explain the sample and hold circuit and illustrate it.
5) Simplify the Measurement and control of temperature with the Flow chart.

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K4 & K5LEVEL

UNIT-I

1. Evaluate the following:

    i) AMD 2901, AMD 2903

    ii) AMD 2902

    iii) AMD 2909,AMD 2910

2. Inspect about vector processor and draw the diagram.

3. Determine the concept of array processor.

4. List out the register organization of 8086 in detail.

5. Critize the concept of Interrupts and it's type.

UNIT-II

1. Inspect about the concept of addressing mode byte.

2. Conclude about segment override.

3. Justify the concept of 8086 instructions.

4. Explain the function to arrange numbers in descending order.

5. Explain the function to arrange the numbers in ascending order.

UNIT-III

1. Dissect the concept of 486 DX architecture with diagram.

2. Explain the operating modes of Intel 486.

3. Discover the Memory Management Unit and Analyze it.

4. Analyze the PIN Configuration and the signals of 80486.

5. Explain about the gates and classify its types.

6. Explain about Input devices with examples.

7. Explain about Output devices with example.

UNIT-IV

1. Analyze the Pentium microprocessor and Categorize it.
2. Discover the Register Organization of Power PC Microprocessor.
3. Compare and constract between Pentium and Pentium Pro Microprocessor.
4. What is Pentium 2 ? Discuss its important features. In what way does it differ from Pentium and Pentium Pro processor?
5. What are the functions of the following functional unit of the Pentium Pro processor?
   a) Fetch / Decode unit
   b) Dispatch / Execute unit

UNIT-V

1. Explain briefly about Interfacing of ADC 0809 to INTEL 8086 and illustrate it.
2. Explain about the Measurement and Control of Temperature with its table of Memory location and Temperature. Execute the flow chart.
3. Prioritize between i3 , i5 , i7 and also Contrast it.
4. Distinguish between Motorola 68020, 68030, 68040.
5. A) Compare the quad core and dual core processors. B) Give the flowchart for Temperature Display and monitoring with explanation.