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## Question Bank

**Class: F.Y.B. Sc.CS**

**Semester: I**

**Subject: Computer Organization and Design**

### Unit I

Q 1. The only language which the computer understands is \_\_\_\_\_

- a. Assembly Language
- b. Binary Language
- c. BASIC
- d. C Language

Q 2 The smallest unit of data in computer is \_\_\_\_\_

- a. Byte
- b. Nibble
- c. Bit
- d. KB

Q 3 A CPU contains

- a. a card reader and a printing device
- b. an analytical engine and a control unit
- c. a control unit and an arithmetic logic unit
- d. an arithmetic logic unit and a card reader

Q 4 Which of the following controls the process of interaction between the user and the operating system?

- a. User interface
- b. Language translator
- c. Platform
- d. Screen saver

Q 5 One nibble is equivalent to how many bits?

- a. 2
- b. 4
- c. 8
- d. 1

Q 6 Which of the following is not a function of the Input Unit?

- a. It reads instructions and data from the outside world.
- b. It converts the data into computer acceptable format.
- c. It makes the data into user understandable format.
- d. It supplies the data and instructions to the computer for further processing.

Q 7 The 8-bit encoding format used to store data in a computer is \_\_\_\_\_

- a) ASCII
- b) EBCDIC
- c) ANCI
- d) USCII

Q 8 The ALU makes use of \_\_\_\_\_ to store the intermediate results.

- a) Accumulators
- b) Registers
- c) Heap
- d) Stack

Q 9 \_\_\_\_\_ bus structure is usually used to connect I/O devices.

- a) Single bus
- b) Multiple bus
- c) Star bus
- d) Rambus

Q 10 The decoded instruction is stored in \_\_\_\_\_

- a) IR
- b) PC
- c) Registers
- d) MDR

Q 11 The instruction -> Add LOCA, R<sub>0</sub> does \_\_\_\_\_

- a) Adds the value of LOCA to R<sub>0</sub> and stores in the temp register
- b) Adds the value of R<sub>0</sub> to the address of LOCA
- c) Adds the values of both LOCA and R<sub>0</sub> and stores it in R<sub>0</sub>
- d) Adds the value of LOCA with a value in accumulator and stores it in R<sub>0</sub>

Q 12 Which registers can interact with the secondary storage?

- a) MAR
- b) PC
- c) IR
- d) R0

Q 13 Which of the register/s of the processor is/are connected to Memory Bus?

- a) PC
- b) MAR
- c) IR
- d) internal register

Q 14 The internal components of the processor are connected by \_\_\_\_\_

- a) Processor intra-connectivity circuitry
- b) Processor bus
- c) Memory bus
- d) Rambus

Q 15 The registers, ALU and the interconnection between them are collectively called as \_\_\_\_\_

- a) process route
- b) information trail
- c) information path
- d) data path

Q 16 Components that provide internal storage to the CPU are \_\_\_\_\_

- a.** Registers
- b.** Program Counters
- c.** Controllers
- d.** Internal chips

Q 17 The 'heart' of the processor which performs many different operations \_\_\_\_\_

- a)** Arithmetic and logic unit
- b)** Motherboard
- c)** Control Unit
- d)** Memory

Q 18 The sign magnitude representation of -1 is \_\_\_\_\_

- a) 0001
- b) 1110
- c) 1000
- d) 1001

Q 19 What does MAR stand for?

- a) Main Address Register
- b) Memory Access Register
- c) Main Accessible Register
- d) Memory Address Register

Q 20 The value of base in a decimal number system is \_\_\_\_\_

- a) 8
- b) 2

c) 10

d) 16

Q 21 Which method/s of representation of numbers occupies a large amount of memory than others?

**a)** Sign-magnitude

**b)** 1's complement

**c)** 2's complement

**d)** 1's & 2's compliment

Q 22 Which method of representation has two representations for '0'?

**a)** Sign-magnitude

**b)** 1's complement

**c)** 2's complement

**d)** 1's & 2's compliment

Q 23 The 2's complement of 15 is \_\_\_\_\_

a) 0000

b) 0001

c) 0010

d) 0100

Q 24 Another name for base is \_\_\_\_\_

a) root

b) radix

c) entity

d) median

Q 25 Which of the following statements is true ?

**a.** Minicomputer works faster than Microcomputer

**b.** Microcomputer works faster than Minicomputer

**c.** Speed of both the computers is the same

**d.** The speeds of both these computers cannot be compared with the speed of advanced

Q 26 The decimal equivalent of  $(0.101)_2$  will be \_\_\_\_\_

a) 0.5

b) 0.625

c) 0.25

d) 0.875

Q 27 EBCDIC stands for

- a. Extended Binary Coded Decimal Interchange Code
- b. Extended Bit Code Decimal Interchange Code
- c. Extended Bit Case Decimal Interchange Code
- d. Extended Binary Case Decimal Interchange Code

Q 28 What type of computers are client computers (most of the time) in a client-server system?

- a. Mainframe
- b. Mini-computer
- c. Microcomputer
- d. PDA

Q 29 The hexadecimal representation of 14 is \_\_\_\_\_

- a) A
- b) F
- c) D
- d) E

Q 30 Which of the following is not a decimal number?

- a) 114
- b) 43.47
- c) 99.9A
- d) 10101

Q 31 Select the incorrect option :

- a)  $(101)_{10} = (1100101)_2$
- b) G is valid in hexadecimal system.
- c) C represents 12
- d) The base of a decimal number system is 10.

Q 32 The binary equivalent of the decimal number 10 is \_\_\_\_\_

- a) 0010
- b) 10
- c) 1010
- d) 010

Q 33 ASCII stands for

- a. American Stable Code for International Interchange
- b. American Standard Case for Institutional Interchange
- c. American Standard Code for Information Interchange
- d. American Standard Code for Interchange Information

Q 34 The computer size was very large in

- a. First Generation
- b. Second Generation
- c. Third Generation
- d. Fourth Generation

Q 35 The octal equivalent of 1100101.001010 is \_\_\_\_\_

- a) 624.12
- b) 145.12
- c) 154.12
- d) 145.21

Q 36 Convert the binary equivalent 10101 to its decimal equivalent.

- a) 21
- b) 12
- c) 22
- d) 31

Q 37 Which of the following is the correct representation of a binary number?

- a)  $(124)_2$
- b) 1110
- c)  $(110)^2$
- d)  $(000)_2$

Q 38 Give the logic equation of OR gate

- a)  $A+B$
- b)  $A-B$
- c)  $A*B$
- d)  $A'B+AB'$

Q 39 Explain the logic operation,  $a \cdot b + b \cdot b$  when  $a=1$ ,  $b=1$

- a) 0
- b) 1
- c) 1'
- d) 2

Q 40 If any one of the input is at logic one then output will be at high logic, for which gate?

- a) AND
- b) XOR

- c) XNOR
- d) OR

Q 41 The universal gate is \_\_\_\_\_

- A. NAND
- B. AND
- C. OR
- D. NOT

Q 42 The inverter is also known as

- A. NAND
- B. AND
- C. OR
- D. NOT

Q 43 The output of two input NAND gate is high

- A. Only if both the inputs are high
- B. Only if both the inputs are low
- C. Only one input is high and other input is low
- D. If at least one the inputs is low

Q 44 A \_\_\_\_\_ gate gives the output as 1 only if all the inputs signals are 1.

- A. AND
- B. OR
- C. EXOR
- D. NOR

Q 45 There are \_\_\_\_\_ cells in a 4-variable K-map.

- A. 12
- B. 16
- C. 18
- D. 8

Q 46 Total number of inputs in a half adder is \_\_\_\_\_

- A. 2
- B. 3
- C. 4
- D. 1

Q 47 If A and B are the inputs of a half adder, the carry is given by \_\_\_\_\_

- A. A AND B
- B. A OR B
- C. A XOR B
- D. A EX-NOR B

Q 48 How many inputs and outputs does a full subtractor circuit have?

- A. 2 inputs, 1 output
- B. 2 inputs, 2 outputs
- C. 2 inputs, 3 outputs
- D. 3 inputs, 2 outputs

Q 49 A basic S-R flip-flop can be constructed by cross-coupling of which basic logic gates?

- a) AND or OR gates
- b) XOR or XNOR gates
- c) NOR or NAND gates
- d) AND or NOR gates

Q 50 In S-R flip-flop, if  $Q = 0$  the output is said to be \_\_\_\_\_

- a) Set
- b) Reset
- c) Previous state
- d) Current state

Q 51 The full form of SR is \_\_\_\_\_

- a) System Rated
- b) Set Reset
- c) Set Ready
- d) Set Rated

Q 52 The SR latch consists of \_\_\_\_\_

- a) 1 input
- b) 2 inputs
- c) 3 inputs
- d) 4 inputs

Q 53 When a high is applied to the Set line of an SR latch, then \_\_\_\_\_

- a) Q output goes high
- b) Q' output goes high
- c) Q output goes low
- d) Both Q and Q' go high

Q 54 When both inputs of SR latches are low, the latch \_\_\_\_\_

- a) Q output goes high
- b) Q' output goes high
- c) It remains in its previously set or reset state
- d) it goes to its next set or reset state

Q 55 In SR flip-flop, input labeled 's' stands for

- A. Systematic
- B. Static
- C. Set
- D. Stable

## Unit II

Q 56 If the word length of a computer is 32 bits, a single word can store a \_\_\_\_\_ signed number

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

Q 57 Each ASCII-encoded characters, occupying \_\_\_\_\_ bits

- a. 4
- b. 6
- c. 8
- d. 10

Q 58 A unit of 8 bits is called a

- a. Bits
- b. Byte
- c. Word
- d. Nibble

Q 59 A 24-bit address generates an address space of \_\_\_\_\_ locations.

- a.  $2^{24}$
- b.  $2^{12}$
- c. 24
- d. 48

Q 60 A 20-bit address creates an address space of \_\_\_\_\_ locations

- a.  $2 \times 20$
- b. 1M (1 Mega)
- c. 10M (10 Mega)
- d. 20M (20 Mega)

Q 61 Which name is used when lower byte addresses are used for the more significant bytes (the leftmost bytes) of the word?

- a. little-endian
- b. LSB
- c. Big-endian
- d. MSB

Q 62 The name is \_\_\_\_\_ used for the lower byte addresses or for the less significant bytes (the rightmost bytes) of the word.

- a. Little-endian
- b. LSB
- c. Big-endian
- d. MSB

Q 63 The words “more significant” and “less significant” are used in relation to the weights

- a. powers of 2
- b. powers of 3
- c. powers of 4
- d. powers of 8

Q 64 Give the abbreviation of RISC

- a. Reduced Information Set Computers
- b. Reduced Instruction Set Computers
- c. Return Instruction Set Computers
- d. Return Information Set Computers

Q 65 Which of the following instruction used to transfer data from memory location LOC to processor register R2

- a. Load R2, LOC
- b. Ld R2, LOC
- c. Load LOC R2
- d. L R2, LOC

Q 66 CISC means

- a. Computer Instruction Set Command
- b. Complex Instruction Set Computers
- c. Complex Instruction Set Command
- d. Complete Instruction Set Computers

Q 67 Load R2, NUM1 is an example of

- a. Immediate mode
- b. Resistor mode
- c. Absolute mode
- d. Register mode

Q 68 Add R4, R6, 200 is an example of

- a. Immediate mode
- b. Resistor mode
- c. Absolute mode
- d. Register mode

Q 69 Add R4, R6, #200 is an example of

- a. Immediate mode
- b. Resistor mode
- c. Absolute mode
- d. Register mode

Q 70 Add R4, R2, R3 is an example of

- a. Immediate mode
- b. Resistor mode
- c. Absolute mode
- d. Register mode

Q 71 Move R4, #NUM1 is an example of

- a. Immediate mode
- b. Indirect mode
- c. Absolute mode
- d. Register mode

Q 72 Move R4, #NUM1, will perform the following action

- a. Place the address value R4, into NUM1
- b. Place the value NUM1, into R4
- c. Place the address value R4, into NUM1

d. Place the address value NUM1, into R4

Q 73 The instruction, Add R1,#45,R1 does \_\_\_\_\_

- a) Adds the value of 45 to the address of R1 and stores 45 in that address
- b) Adds 45 to the value of R1 and stores it in R1
- c) Finds the memory location 45 and adds that content to that of R1
- d) None of the mentioned

Q 74 The addressing mode which makes use of in-direction pointers is \_\_\_\_\_

- a) Indirect addressing mode
- b) Index addressing mode
- c) Relative addressing mode
- d) Offset addressing mode

Q 75 In the following indexed addressing mode instruction, MOV 5(R1), LOC the effective address is \_\_\_\_\_

- a)  $EA = 5+R1$
- b)  $EA = R1$
- c)  $EA = [R1]$
- d)  $EA = 5+[R1]$

Q 76 The addressing mode, where you directly specify the operand value is \_\_\_\_\_

- a) Immediate
- b) Direct
- c) Definite
- d) Relative

Q 77 assembly language

- a. Uses alphabetic codes in place of binary numbers used in machine language
- b. is the easiest language to write programs
- c. need not be translated into machine language
- d. need not be translated into binary language

Q 78 Addressing mode used in an instruction of the form ADD X Y, is

- a. absolute
- b. indirect
- c. index
- d. relative

Q 79 Which register is used to hold address of next instruction?

- (A) IR
- (B) DR
- (C) AR
- (D) PC

Q 80 A group of bits that tell the computer to perform a specific operation is known as

- a. Instruction code
- b. Micro-operation
- c. Accumulator
- d. Register

Q 81 The user program in its original alphanumeric text format is called a/an

- a. Assembly program
- b. Main program
- c. Source program
- d. Destination program

Q 82 The assembled machine-language program is called an/a

- a. object program
- b. Main program
- c. Source program
- d. Destination program

Q 83 In assembly language LD, ST, ADD and BR are also called

- a. data
- b. mnemonics
- c. code
- d. input

Q 84 The set of rules for using the mnemonics and for specification of complete instructions and programs is called the \_\_\_\_\_ of the language.

- a. syntax
- b. Input
- c. Output
- d. Variables

Q 85 Programs written in an assembly language can be automatically translated into a sequence of machine instructions by a program called an \_\_\_\_\_.

- a. program

- b. code
- c. protocol
- d. assembler

Q 86 The assembler, like any other program, is stored as a sequence of machine instructions in the \_\_\_\_\_.

- a. Memory of the computer
- b. External memory
- c. External flip-flops
- d. Internal flip-flops

Q 87 When the assembler program is executed, it reads the user program, analyzes it, and then generates the desired \_\_\_\_\_ program.

- a. assembler
- b. analyzer
- c. machine language
- d. data

Q 88 In the given instruction ST R2, SUM, ST is known as

- a. data
- b. mnemonic
- c. input
- d. output

Q 89 In the given instruction ST R2, SUM, operand is

- a. ST
- b. R2
- c. SUM
- d. Both R2 and SUM

Q 90 ADD R2, R3, #5, the given instruction uses which addressing mode

- a. Absolute
- b. Indirect
- c. Index
- d. Immediate

Q 91  $R4 \leftarrow [R2]+[R3]$ , this type of notation is known as.

- a. Register Transfer Notation (RTN)
- b. Resistor Transfer Notation (RTN)
- c. Register Transfer Note (RTN)

**d. Register Time Notation (RTN)**

Q 92 Each instruction fits in a single word, Memory operands are accessed only using Load and Store instructions are two key characteristics of which processor

- a. Complex Instruction Set Computers (CISC)
- b. Reduced Instruction Set Computers (RISC)
- c. Return Instruction Set Computers (RISC)
- d. Computer Information Set Computers (CISC)

Q 93 In given instruction → Add destination, source1, source2

- a. source is a processor register and the destination is a memory location
- b. source is a simple register and the destination is a simple location
- c. source and destination both are processor register
- d. source and destination both are memory register

Q 94 The \_\_\_\_\_ and \_\_\_\_\_ terms are used to describe placing a new item on the stack and removing the top item from the stack, respectively.

- a. pop and push
- b. push and pop
- c. pop
- d. push

Q 95 To implement the task as a block of instructions that is executed each time the task has to be performed, such a block of instructions is usually called a

- a. Subroutine
- b. Stack
- c. Programm
- d. Code

Q 96 The subroutine is said to return to the program that called it, and it does so by executing a \_\_\_\_\_ instruction.

- a. End
- b. Return
- c. Start
- d. Stop

Q 97 The given instruction And R4, R2, R3 computes

- a. The bitwise AND of operands in registers R4 and R2, and leaves the result in R3
- b. The bytewise AND of operands in registers R2 and R3, and leaves the result in R4

- c. The bitwise AND of operands in registers R2, R3 and R4
- d. The bitwise AND of operands in registers R2 and R3, and leaves the result in R4

Q 98 Exchange of information between a calling program and a subroutine is referred to as

- a. parameter
- b. parameter passing
- c. data passing
- d. variables

Q 99 The given instruction performs which of the following function  
LShiftL R3, R3, #2

- a. count which shifts the contents of register R3 left by a number of bit positions given by the count operand (2), and places the result in register R3.
- b. count which shifts the contents of register R3 left by a number of bit positions given by the count address of location (2), and places the result in register R3.
- c. count which shifts the contents of register R3 left by a number of bit positions given by the count operand (2), and places the result not in register R3.
- d. count which shifts the contents of register R3 left by a number of bit positions given by the count (1), and places the result in register R3.

Q 100 Which of the following instructions performs the function that shifts the contents of register R3 right by a number of bit positions given by the count operand (2), and places the result in register R3.

- a. LShiftR R3, R3, #2
- b. RShiftL R3, R3, #2
- c. RShiftR R3, R3, #2
- d. LShiftR R3, R3, #1

Q 101 Programs that tend to be larger in size, because more, but simpler instructions are needed to perform complex tasks, this is the characteristic of which of the following computer

- a. CISC
- b. RISC
- c. CSIC
- d. RSIC

Q 102 Programs that tend to be smaller in size, because fewer, but more complex instructions are needed to perform complex tasks, this is the characteristic of which of the following computer

- a. CISC
- b. RISC
- c. CSIC
- d. RSIC

Q 103 Memory used for assembly language is\_\_\_\_\_addressable

- a. Byte
- b. Bit
- c. Word
- d. Nibble

<https://mcqs.home.blog/2020/05/20/computer-organization-and-architecture-multiple-choice-questionsmcqs-answers/>

<https://jobs.edufever.com/mcq-on-computer-architecture/>

## Unit III

Q 1 The processor uses the\_\_\_\_\_ to keep track of the address of the next instruction to be fetched and executed.

- a. program counter
- b. program cycle
- c. subroutine
- d. loop

Q 2 A five-step sequence of actions to fetch and execute an instruction.

- 1 Fetch an instruction and increment the program counter.
- 2 Decode the instruction and read registers from the register file.
- 3 Perform an ALU operation.
- 4 Read or write memory data if the instruction involves a memory operand.
- 5 Write the result into the destination register, if needed.

Give the correct sequence of operation

- a. 1, 2, 3, 4, 5
- b. 1, 4, 2, 3, 5
- c. 4, 1, 2, 3, 5
- d. 1, 3, 2, 4, 5

Q 3 The I/O devices are connected to the CPU via\_\_\_\_\_.

- A. SDRAM's
- B. Control circuits
- C. Signals
- D. BUS

Q 4 The \_\_\_\_\_ is the computational center of the CPU.

- A. Registers
- B. ALU
- C. Flip-Flop
- D. Multiplexer

Q 5 Generally, instructions of a RISC-style processor can be executed using the\_\_\_\_\_.

- a. five-step sequence
- b. four-step sequence
- c. three-step sequence
- d. two-step sequence

Q 6 When an instruction is fetched, it is placed in the

- a. IR

- b.** input register
- c.** output register
- d.** immediate register

Q 7 IR stands for

- a.** Immediate Register
- b.** Instruction Register
- c.** Input Register
- d.** Inbuilt Register

Q 8 IR is usually referred to as the \_\_\_\_\_

- a.** Instruction fetch phase
- b.** Execution phase
- c.** Storage phase
- d.** Input fetch phase

Q 9 The results of the computation are stored in a \_\_\_\_\_

- a.** register in the register file
- b.** SP in the register file
- c.** FP in the register file
- d.** Stack in the register file

Q 10 Instruction processing consists of two phases, \_\_\_\_\_

- a.** the fetch phase and the execution phase
- b.** the input phase and the output phase
- c.** the in phase and the out phase
- d.** the input phase and the execution phase

Q 11 . The \_\_\_\_\_ reads the data operands specified in an instruction, performs the required computations, and stores the results.

- a.** input section
- b.** control section
- c.** execution section
- d.** ALU section

Q 12 ALU means

- a.** Arithmetic and Logical Unit
- b.** Arithmetic and Logic Unit
- c.** Automatic and logic Unit

d. Automatic and Logical Unit

Q 13 An instruction is executed in a sequence of steps, where each step requires \_\_\_\_\_ clock cycle

- a. One
- b. Two
- c. Three
- d. Four

Q 14 The desired setting of the control signals in each step is determined by a program stored in a special memory, this control program is called a

- a. Microprogram
- b. Miniprogram
- c. Program
- d. Software

Q 15 The microprogram is stored on the processor chip in a small and fast memory called the

- a. microprogram memory or the control store
- b. program memory or the control store
- c. miniprogram memory or the control store
- d. microprogram memory or the memory store

Q 16 The sequence of microinstructions corresponding to a given machine instruction constitutes the \_\_\_\_\_ that implements that instruction.

- a. routine
- b. micro routine
- c. mini routine
- d. simple routine

Q 17 The given instruction Load R5, X(R7)

- a. which uses the Index addressing mode to load a word of data from memory location  $X + [R7]$  into register R5
- b. which uses the Index addressing mode to load a word of data from memory location R5 into register  $X + [R7]$
- c. which uses the indirect addressing mode to load a word of data from memory location  $X + [R7]$  into register R5
- d. which uses the Index addressing mode to load a word of data from processor location  $X + [R7]$  into register R5

Q 18 An I/O device is connected to the interconnection network by using a circuit, called the \_\_\_\_\_, which provides the means for data transfer and for the exchange of status and control information

- a. interface
- b. device interface
- c. i/o interface
- d. network interface

Q 19 In I/O device interface, one register may serve as a \_\_\_\_\_ for data transfers

- a. Buffer
- b. Register
- c. Interface
- d. I/O register

Q 20 In I/O device interface, the interface includes some registers that can be accessed by the processor\_\_\_\_\_,\_\_\_\_\_and\_\_\_\_\_, registers are accessed by program instructions as if they were memory locations.

- a. device, status, and control
- b. data, storage, and control
- c. data, status, and control
- d. device, storage, and control

Q 21 A program that transferring each character from the keyboard into the memory, and then to the display, it is necessary to ensure that this happens at the right time. This method is known as

- a. program-controlled I/O
- b. program-controlled
- c. program-character I/O
- d. program-character output

Q 22 The program uses the program-controlled I/O approach to\_\_\_\_\_,\_\_\_\_\_and\_\_\_\_\_, a line of characters typed at the keyboard.

- a. initialize, store, and display
- b. read, store, and display
- c. read, write, and display
- d. initialize, write, and display

Q 23 The duplicate registers are sometimes called the

- a. shadow registers
- b. wrong register
- c. program counter

- d.** stack pointer

Q 24 Delay between the time an interrupt request is received and the start of execution of the interrupt-service routine, this delay is called \_\_\_\_\_.

- a.** interrupt latency
- b.** interrupt delay
- c.** interrupt
- d.** error

Q 25 ISR full form

- a.** Inter service routine
- b.** Interrupt service routine
- c.** Inbuilt service routine
- d.** Interrupt service rout

Q 26 Execution of the interrupted program resumes after the execution of the \_\_\_\_\_ has been completed.

- a.** interrupt-service routine
- b.** main program
- c.** interrupt
- d.** Inter service routine

Q 27 The concept of interrupts is used in \_\_\_\_\_ and in many control applications where processing of certain routines must be accurately timed relative to external events.

- a.** operating systems
- b.** program counter
- c.** Inter service routine
- d.** stack pointer

Q 28 When \_\_\_\_\_, interrupt requests from I/O devices are accepted and serviced by the processor.

- a.** IE = 0
- b.** IE = 1
- c.** IP = 0
- d.** IP = 1

Q 29 The action requested by the interrupt is performed by the

- a.** interrupt-service routine
- b.** interrupt
- c.** main routine
- d.** interrupt routine

Q 30 An\_\_\_\_\_is an event that causes the execution of one program to be suspended and the execution of another program to begin.

- a. interrupt
- b. error
- c. iteration
- d. input

Q 31 For events associated with I/O data transfers we require

- a. Interrupt
- b. Input data
- c. I/O devices
- d. Keyboard

Q 32 The term exception is often used to refer to any event that causes an/a

- a. program
- b. Interruption
- c. input/output
- d. ISR

Q 33 I/O interrupts are one example of an/a

- a. Exception
- b. Input
- c. Output
- d. External device

Q 34 Many computers include an/a\_\_\_\_\_in the main memory, which allows detection of errors in the stored data.

- a. program
- b. ISR
- c. error-checking code
- d. special program

Q 35 If an\_\_\_\_\_occurs, the control hardware detects it and informs the processor by raising an\_\_\_\_\_.

- a. Error, interrupt
- b. Interrupt, error
- c. Interrupt, interrupt
- d. Error, error

Q 36 System software usually includes a program called a\_\_\_\_\_, which helps the programmer find errors in a program

- a. Assembler

- b. Debugger
- c. ISR
- d. Special type of program

Q 37 The debugger uses exceptions to provide two important facilities:

- a. trace mode and breakpoints
- b. i/o mode and interrupt mode
- c. i/o mode and breakpoint
- d. trace point and interrupt mode

Q 38 Memory mapped means

- a. I/O devices and the memory share the same address space
- b. All devices and the memory share the same address space
- c. I/O devices and the memory share the different address space
- d. I/O devices and the memory share the same processor

Q 39

Q 40 The processor may also \_\_\_\_\_ a program if it detects an error or an unusual condition while executing the instructions of this program.

- a. Interrupt
- b. Stop
- c. Start
- d. End

Q 41 The components of a computer system communicate with each other through an

- a. input devices
- b. output devices
- c. keyboard
- d. interconnection network

Q 42 The interconnection network consists of circuits needed to transfer information between

- a. the processor, the memory unit, and a number of I/O devices
- b. the processor, the memory unit
- c. the processor, and a number of I/O devices
- d. a number of I/O devices

Q 43 I/O devices and the memory share the same address space, this arrangement is called

- a. memory-mapped I/O
- b. i/o-mapped I/O
- c. I/O devices software
- d. registers

Q 44 With \_\_\_\_\_, any machine instruction that can access memory can be used to transfer data to or from an I/O device

- a. i/o-mapped I/O
- b. I/O devices software
- c. memory-mapped I/O
- d. registers

Q 45 Reads the data from the DATAIN register and loads them into processor register R2.

- a. Load R2, DATAIN
- b. Store R2, DATAIN
- c. Read R2, DATAIN
- d. READ R2, DATAIN

Q 46 For Register file, the access circuitry is designed to enable \_\_\_\_\_ registers to be read at the same time

- a. Two
- b. Three
- c. Four
- d. Five

Q 47 A memory unit that has two output ports is said to be

- a. Dual-ported
- b. Double-ported
- c. Single-ported
- d. Simply known as port

Q 48 Control circuits are responsible for generating the

- a. Timing signals
- b. Control signal
- c. Interrupt
- d. ISR

Q 49 \_\_\_\_\_, which updates the contents of the PC after each instruction is fetched.

- a. Instruction address generator
- b. Interrupt address generator
- c. Instruction generator
- d. PC generator

Q 50 The instruction read from the memory is loaded into the \_\_\_\_\_, where it stays until its execution is completed and the next instruction is fetched.

- a. IR
- b. IE
- c. IP
- d. IO

Q 51 When \_\_\_\_\_, the processor simply ignores all interrupt requests from I/O devices.

- a. IE = 0
- b. IE = 1
- c. IP = 0
- d. IP = 1