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AN AUTONOMOUS INSTITUTION

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Puzzles in ARM

1)What does ARM stand for?

A) Advanced Reduced Machine
B) Advanced Reduced Memory
C) Advanced RISC Machines
D) Advanced Random Machines
Answer: C) Advanced RISC Machines
2)Which instruction set architecture is ARM based on?

A) CISC
B) RISC
C) MISC
D) VLIW
Answer: B) RISC
3)How many general-purpose registers does ARM typically have?

A) 8
B) 12
C) 16
D) 32
Answer: C) 16
4)What is the size of each general-purpose register in most ARM architectures?

A) 8 bits
B) 16 bits
C) 32 bits
D) 64 bits
Answer: C) 32 bits
5)What is the program counter (PC) used for in ARM?

A) Storing data
B) Holding the next instruction address
C) Counting cycles
D) Monitoring memory usage
Answer: B) Holding the next instruction address

6)Which of the following is a feature of ARM processors?

A) Pipelining
B) High power consumption
C) Complex instruction set
D) Fixed-length instructions
Answer: A) Pipelining
7)Which ARM mode is typically used for handling interrupts?

A) User mode
B) Supervisor mode
C) IRQ mode
D) System mode
Answer: C) IRQ mode
8)What is the typical width of the data bus in an ARM Cortex-M processor?

A) 8 bits
B) 16 bits
C) 32 bits
D) 64 bits
Answer: C) 32 bits

9)Which feature of ARM architecture is critical in mobile and embedded devices due to its focus on reducing power consumption?

A) Scalability
B) Customization
C) Energy Efficiency
D) 64-bit Support
Answer: C) Energy Efficiency

10) In ARM architecture, what does "D" stand for in the context of ARM modes or features?

A) Debug
B) Direct
C) Data
D) Development
Answer: A) Debug

11)Which part of the CPSR indicates the current processor mode in ARM?

A) The lower 5 bits
B) The higher 8 bits
C) The middle 4 bits
D) The upper 2 bits

Answer: A) The lower 5 bits

12)What does the V flag in the CPSR indicate?

A) A zero result
B) A carry occurred
C) An overflow occurred
D) A negative result
Answer: C) An overflow occurred

13)What does the 31st bit in the CPSR represent?

A) Zero flag
B) Overflow flag
C) Carry flag
D) Negative flag
Answer: D) Negative flag

14)Which bit in the CPSR is used to disable Fast Interrupts (FIQ)?

A) I bit
B) F bit
C) T bit
D) Z bit
Answer: B) F bit

15)Which of the following modes allows full access to critical system resources?

a) Unprivileged execution
b) Privileged execution
c) User mode
d) Thumb mode
Answer: b) Privileged execution

16)Which register stores the return address for a function call in ARM?

a) R14 (LR)
b) R13 (SP)
c) R15 (PC)
d) R12
Answer: a) R14 (Link Register

17)Which register in ARM architecture is used as the program counter (PC)?

a) R0

b) R13
c) R15
d) R1
Answer: c) R15

18)How many modes of operation are available in ARM7?

a) 3
b) 5
c) 7
d) 9
Answer: c) 7

19)How many registers are available in ARM7?

a) 16
b) 31
c) 37
d) 40
Answer: c) 37

20)ARM processors are commonly used in which of the following devices?

A) Desktop computers
B) Smartphones and tablets
C) Mainframe computers
D) High-performance servers
Correct Answer: B