

Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)

What is the instruction length of the FALCON-A processor?

Answer (Please select your correct option)

8 bits

16 bits

32 bits

64 bits

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Question No : 2 of 26

Marks: 1 (Budgeted Time 1 Min)

What is the instruction length of the SRC processor?

Answer (Please select your correct option)

8 bits

16 bits

32 bits

64 bits

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Question No : 3 of 26

Marks: 1 (Budgeted Time 1 Min)

What does the word 'D' in the 'D-flip-Flop' stands for?

Answer (Please select your correct option)

Double

Data

Digital

Dynamic

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Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)

"If P = 1, then load the contents of register R1 into register R2".
This statement can be written in RTL as:

Answer (Please select your correct option)

- R1 ← R2
- P: R1 ← R2
- P: R2 ← R1
- P: R2 ← R1, P: R1 ← R2

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)

Almost every commercial computer has its own particular ----- language

Answer (Please select your correct option)

- assembly language
- English language
- Higher level language
- 3GL

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Question No : 6 of 26

Marks: 1 (Budgeted Time 1 Min)

A ----- is a computer program that is used to test and debug other programs.

Answer (Please select your correct option)

- Linker
- Loader
- Debugger
- Compiler

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Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)

What is the working of **Processor Status Word (PSW)**?

Answer (Please select your correct option)

- C To hold the current status of the processor. ✓
- C To hold the address of the current process
- C To hold the instruction that the computer is currently processing
- C To hold the address of the next instruction in memory that is to be executed

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Question No : 8 of 26

Marks: 1 (Budgeted Time 1 Min)

The instruction -----will **load** the register R3 with the contents of the memory location M [PC+56]

Answer (Please select your correct option)

- C Add R3, 56
- C ldr R3, 56
- C ldr R3, 56 ✓
- C str R3, 56

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Question No : 9 of 26

Marks: 1 (Budgeted Time 1 Min)

Motorola MC68000 is an example of -----microprocessor.

Answer (Please select your correct option)

- C CISC ✓
- C RISC
- C SRC
- C FALCON

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Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

_____ control signal allows the contents of the Program Counter register to be written onto the internal processor bus.

Answer (Please select your correct option)

INC4

LPC

PCout

LC



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Question No : 11 of 26

Marks: 1 (Budgeted Time 1 Min)

op<4..0>:= IR<15..11>:

The above RTL instruction presents the _____ of the FALCON-A Instructions.

Answer (Please select your correct option)

operation code field

target register field

operand or address index

second operand



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Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)

_____ operation is required to change the processor's state to a known, defined value.

Answer (Please select your correct option)

Change

Reset

Update

Halt



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Question No : 13 of 26

Marks: 1 (Budgeted Time 1 Min)

_____ is/are defined as the number of instructions processed per second

Answer (Please select your correct option)

- C Throughput
- C Latency
- C Hazards
- C Throughput and Latency

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Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)

Which of the following register(s) is/are programmer invisible and is/are required to hold an operand or result value while the bus is busy transmitting some other value?

- C Instruction Register
- C Memory address register
- C Memory Buffer Register
- C Registers A and C

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Question No : 15 of 26

Marks: 1 (Budgeted Time 1 Min)

Anything that interrupts the normal flow of execution of instructions in the processor is called a/an _____

- C Function
- C Exception
- C Assembler
- C Machine

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Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)

In pipelining ----- is increased by overlapping the instruction execution

Answer (Please select your correct option)

- Latency
- Throughput
- Execution time
- Clock speed



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Question No : 17 of 26

Marks: 1 (Budgeted Time 1 Min)

_____ control signal enable the input to the PC for receiving a value that is currently on the internal processor bus.

- LPC
- INC4
- LC
- Cout



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Question No : 18 of 26

Marks: 1 (Budgeted Time 1 Min)

In which one of the following addressing modes, data is the part of the instruction itself, and so there is no need of address calculation?

- Direct Addressing Mode
- Immediate addressing mode
- Indirect Addressing Mode
- Register (Direct) Addressing Mode



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Question No : 19 of 26

Marks: 1 (Budgeted Time 1 Min)

Which of the following hazard occurs when attempting to access the same resource in different ways at the same time?

Answer (Please select your correct option)

RAW (read after write) data hazard

Structural hazard

Branch hazard

Complex hazard

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Question No : 20 of 26

Marks: 1 (Budgeted Time 1 Min)

..... is the arithmetic portion of the Von Neumann architecture. It consists of registers, internal buses, arithmetic units and shifters.

Answer (Please select your correct option)

Virtual Memory

Data path

Structural RTL

Timing

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Question No : 21 of 26

Marks: 2 (Budgeted Time 4 Min)

Compare the uni-bus implementation of FALCON-A with that of SRC with respect to size (Number of bits) of each register

Answer (Please [click here](#) to Add Answer)

Rich text editor toolbar with options like Bold, Italic, Underline, and text color.

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Question No : 22 of 26

Marks: 2 (Budgeted Time 4 Min)

Differentiate between hard reset and soft reset?

Answer (Please [click here](#) to Add Answer)

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Question No : 23 of 26

Marks: 3 (Budgeted Time 6 Min)

Write at least one advantage and one disadvantage of microprogramming.

Answer (Please [click here](#) to Add Answer)

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Question No : 24 of 26

Marks: 3 (Budgeted Time 6 Min)

Write the Structural RTL for the "out" instruction i.e. out ra, c2.

Answer (Please [click here](#) to Add Answer)

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Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)

Write the related timing steps requirements and data path implementations of **Instruction Fetch** procedure using **structural RTL**.

Answer (Please [click here to Add Answer](#))



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Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)

What are three main problems related to pipelining? Describe any two of them.

Answer (Please [click here to Add Answer](#))



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