BC-33/2873

BCA (Semester-III) Exam.–2014

Computer Architecture & Assembly Language

Time: Three Hours

Maximum Marks: **70**

Note: Attempt questions from all the sections.

Section–A

(Short Answer Type Questions)

Note: Attempt any seven questions. Each question carries 4 marks. (4x7=28)

1. What is the difference between a direct and an indirect address instruction?

2. Define instruction cycle with an example.

3. What is register? Explain general purpose registers.

4. Explain index registers in detail.

5. Define Input / Output and interrupt in detail.

6. What do you know about DMA operations?

7. Explain decimal arithmetic operations in detail.

8. Explain reduced instruction set computer (RISC) in detail.

9. Explain PSW register of μp 8085.

10. Explain op-code fetch operation in μp 8085.

Section–B

(Long Answer Type Questions)

Note: Attempt any two questions. Each question carries 21 marks. (21x2=42)

1. (a) Explain addition algorithms in detail.

   (b) Define DMA operation in μp.

2. (a) Explain AF_7-AD_0 pins of μp 8085 with the help of diagram in detail. Also give the importance of ALE pin of μp 8085.

(b) Write an ALP to add two 24-bit numbers, which are presents in B.C.D. and H.L.E. registers. Store the result from memory location 5000H.

3. Explain the following: (any two) in detail:

(a) Data Transfer Instructions

(b) CISC

(c) Booth's algorithm

(d) Serial Communication

(e) Arithmetic and logic subroutines

4. (a) Define Stack top and Stack memory in detail.

(b) Explain asynchronous data transfer in detail.

(c) Explain Floating point Arithmetic operations in detail.

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B.C.A. (Semester-III) Exam.–2015
Computer Architecture & Assembly Language

Time : Three Hours
Maximum Marks : **70**

Note : Attempt questions from all sections.

SECTION - A

(Short-answer Type Questions)

Note : Attempt **any Ten** questions. Each question carries 3 marks. 10×3=30

1. Discuss timing cycle instruction.
2. Differentiate general purpose and special purpose register with example.
3. Define a Bus and explain the concept of Bus and memory transfer.

[P. T. O.

4. What are the advantages of RISC Vs CISC?
5. Write the rules for floating point multiplication.
6. Explain the various stack organization.
7. Write a program in assembly language for addition of two 3x3 matrices.
8. What is microprogrammed control unit? Define control memory.
9. Define data transfer and explain various data transfer scheme.
10. What is main importance of IOP? How it is communicated to the CPU.
11. What are the memory performance parameter?
12. Discuss assembler and compiler.
13. Define cache memory. Describe the elements of cache memory.

14. Discuss with example serial communication.

15. Perform the following binary division :

Dividend = 1010

Divisor = 0011

SECTION - B

(Long Answer type questions)

Note : Attempt **any three** questions. Each question carries 15 marks. 15x3=45

1. (a) Explain in brief direct memory address.

(b) What are macro? Discuss the use of macros in I/C instruction.

2. Discuss the following :

(a) Micro operation

(b) Micro instruction

(c) Micro program

[P. T. O.

3. What is an ALU? Draw logic diagram of AlU that perform AND logic operation and ADD SUB arithmetic operation.

4. Write short note on :

(a) Booth's Algorithm

(b) Logic subroutines

(c) Architecture of 8085

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BCA (Semester-III) Exam.–2016

Computer Architecture & Assembly Language

Time : Three Hours
Maximum Marks : **75**

Note : Attempt questions from all sections.

SECTION - A

(Short-answer Type Questions)

Note : Attempt **any ten** questions. Each question carries 3 marks. 10×3=30

1. Explain reduced instruction set computer (RISC) in detail.
2. Explain stack operation.
3. What do you understand by BAUD rate.
4. Explain Push and Pop operation.

[P. T. O.

5. Write the advantages and disadvantages o Microprogrammed control.
6. What is Microoperation and Microinstruction.
7. Write a short note on interrupts.
8. Differentiate between a microprocessor and microprogram.
9. What do you mean by wide branch addressing.
10. What is BUS arbitration.
11. What is multiple BUS organization.
12. Discuss RAM and ROM Chip.
13. Define instruction cycle with an example.
14. Explain op-code fetch operation in μp 8085.
15. Explain PSW register of μp 8085.

SECTION - B

(Long Answer type questions)

Note : Attempt **any three** questions. Each question carries 15 marks. 3x15=45

1. What do you mean by Addressing modes. Discuss different types of addressing mdes with their merits and demerits.

2. An address space in specified by 24 bits and the corresponding memory space by 16 bits.
   (i) How many words are there in the address space.
   (ii) How many words are there in the memory space.
   (iii) If a page consist of 2k words how many pages and blocks are there in the system.

3. Explain the following
   (i) Data Transfer Instruction
   (ii) CISC

4. What is DMA? Explain DMA controller in detail.

5. What is IOP? Explain CPU-IOP communication with the help of neat diagram.

6. With the help of neat block diagram explain function of microprogram sequence.

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B.C.A. (Semester-III) Exam–2017

Computer Architecture & Assembly Language

Time: Three Hours

Maximum Marks: **75**

Note: Attempt questions from all sections.

Section-A

(Short Answer Type Questions)

Note: Attempt any ten questions. Each question carries 3 marks. **(3x10=30)**

1. What are instruction codes?

2. Define registers along with their types.

3. List micro operations with suitable examples.

4. What is Cache memory?

5. Represent the stack organization of CPU.

6. Define floating-point representations.

7. List divisor algorithm.

8. What is DMA?

9. Differentiate between interrupt and control operation.

10. Define macro.

11. What is an assembler?

12. What is data segment?

13. Define DIN, DB and DIB.

14. What is micro controller?

15. Differentiate between ALU and CU.

Section-B

(Long Answer Type Questions)

Note: Attempt any three questions. Each question carries 15 marks. (15x3=45)

1. Explain the various types of instructions with their syntax and examples.

2. What is RISC? How is it different from CISC?

3. Sketch the basic pin configuration diagram of 8085 Intel processor.

4. Write Booth's algorithm, along with its usage.

5. An address space is specified by 32 bits and the corresponding memory space is constructed by 16 bits then computes the following:
   (i) How many words are there in the address space?
   (ii) How many words are there in the memory space?

6. Explain the utility and role of DMA controller in detail.

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B. C. A. (Third Semester)

EXAMINATION, 2019

COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE

Time : Three Hours

Maximum Marks : 75

Note : Attempt questions from both Sections as directed.

Section—A

(Short Answer Type Questions)

Note : Attempt any *ten* questions. Each question carries 3 marks. 10×3=30

1. Define nemonics of processor.
2. List the types of special purpose registers.
3. What is interfacing memory ?

4. Differentiate between RISC and CISC.
5. Rewrite Booth's algorithm.
6. Represent –37 in binary.
7. List the usage of priority interrupts.
8. What is DMA ?
9. Define micro operations.
10. What is macro ? List the usage of macro in I/O instructions.
11. What is assembler ?
12. Define arithmetic and logic subroutines.
13. What is I/O programming ?
14. List external memories.
15. Define pipelined processing.

Section—B

(Long Answer Type Questions)

Note : Attempt any *three* questions. Each question carries 15 marks. 3×15=45

1. Explain the organization of micro-computer with the details of its components.
2. Describe the utility of micro-controller.

3. An address space is specified by 48 bits and corresponding memory space is 24 bits then compute the following :
   (i) How many words are there in the address space ?
   (ii) How many words are there in the memory space ?
4. Sketch the architecture diagram for pin function to 8086 Intel processer.
5. Describe the scheme of notation for the following :
   (i) Negative number in binary
   (ii) Floating print number in binary
6. List the syntax of the following instructions :
   (i) MOV
   (ii) JMP
   (iii) Load
   (iv) MUL
   (v) INT 21h