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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING**

**TEST - 1**

**Even Semester:** 2018-19

**Course Code:** CSE 206

**Course Name:** Microprocessors and Microcontrollers

**Programme & Sem:** B.Tech (CSE) & IV Sem

**Date:** 05 March 2019

**Time:** 1 Hour

**Max Marks:** 40

**Weightage:** 20%

**Instructions:**

- (i) **All questions are compulsory**
- (ii) **Write answers in brief**
- (iii) **Draw figures wherever necessary**

**Part A**

Answer **both** the Questions. **Each** question carries **five** marks.

(2Qx5M=10)

1. Explain the following Data Transfer Instructions:
  - a) MOV
  - b) PUSH
  - c) POP
  - d) XLAT
  - e) LEA
2. Write an ALP to sort N numbers in ascending order using Bubble sort technique.

**Part B**

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

3. Explain the 8086 Pin Diagram and explain the use of following pins
  1. AD0 – AD15
  2. NMI
  3. MN/MX
  4. ALE
  5. BHE
4. Describe the following Addressing Modes of 8086
  - a) Implied addressing mode
  - b) Immediate addressing mode
  - c) Register addressing mode
  - d) Direct addressing mode
  - e) Register indirect addressing mode

**Part C**

Answer the Question. Question carries **Ten** marks.

(1Qx10M=10)

5. With neat Diagram, explain in detail the 8086 Architecture.



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**SCHOOL OF ENGINEERING**

**TEST - 2**

**Even Semester:** 2018-19

**Course Code:** CSE 206

**Course Name:** Microprocessors and Microcontrollers

**Program & Sem:** B.Tech & IV Sem

**Date:** 15 April 2019

**Time:** 1 Hour

**Max Marks:** 40

**Weightage:** 20%

**Instructions:**

- (i) *All questions are compulsory*
- (ii) *Write answers in brief*
- (iii) *Draw figures wherever necessary*

**Part A**

Answer **both** Questions. **Each** Question carries **ten** marks.

(2Qx10M=20)

1. With a neat sketch, explain the block diagram of 8255
2. Write an ALP to find whether the given string is palindrome or not.

**Part B**

Answer **both** Questions. **Each** Question carries **five** marks.

(2Qx5M=10)

3. Explain the following Instructions with appropriate examples
  - a) TEST
  - b) SAL
  - c) RCL
  - d) MOVSB
  - e) JG
4. Write an ALP to read a byte from Input device, consider Port-A as input port and all other ports as output port, assume port addresses.

**Part C**

Answer the Question. The Question carries **ten** marks.

(1Qx10M=10)

5. Explain Mode-0, Mode-1 and Mode-2 of 8255 with a neat diagram



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END TERM FINAL EXAMINATION

Even Semester: 2018-19

Date: 22 May 2019

Course Code: CSE 206

Time: 3 Hours

Course Name: Microprocessors And Microcontrollers

Max Marks: 80

Program & Sem: B.Tech & IV Sem

Weightage: 40%

**Instructions:**

- (i) All questions are compulsory
- (ii) Write answers in brief
- (iii) Draw figures wherever necessary

**Part A**

Answer **all** the Questions. **Each** Sub-Question carries **one** Mark.

(20Qx1M=20M)

**1) Fill up the blanks for the following:**

- i. Data & programs are stored together in Memory in \_\_\_\_\_ Architecture
- ii. In 8086, \_\_\_\_\_ Unit is responsible for decoding the Instruction
- iii. Fetching the next instruction while the current instruction executes is called \_\_\_\_\_
- iv. In 8086, \_\_\_\_\_ holds the address of the next instruction to be executed.
- v. In 8086, \_\_\_\_\_ register is used to hold I/O port address for I/O instruction.
- vi. \_\_\_\_\_ bit of Control Word Register specify the operating mode of 8255?
- vii. 8051 is a \_\_\_\_\_ bit Microcontroller
- viii. In 8051, DPTR register is of \_\_\_\_\_ bits
- ix. In 8051, \_\_\_\_\_ instruction does Data transfer between the accumulator and a byte from external data memory
- x. \_\_\_\_\_ Mode do not have handshake or interrupt capability.

**2) Pick the correct one from the following choices:**

- i. Which Microcontroller is called as ROM-less-8051?  
a. 8031      b. 8032      c. 8051      d. 8052
- ii. The instructions that are used for reading from an input port and writing to an output port respectively are  
a. MOV, XCHG      b. MOV, IN      c. IN, MOV      d. IN, OUT
- iii. The instruction that loads the AH register with the lower byte of the flag register is  
a. SAHF      b. AH      c. LAHF      d. PUSH
- iv. Find the control word of the 8255 for the following configurations:  
PA = out, PB = out, PCL = out, and PCH = out"  
a. 10000000 = 80H      b. 10110000 = B0H      c. 10010000 = 90H      d. 10001111 = 8FH
- v. The instruction that is used for finding out the codes in case of code conversion problems is  
a. XCHG      b. XLAT      c. XOR      d. JCXZ

### 3) Match The Following

PART-A		PART-B	
A	Microcontroller	P	PPI
B	8086 Segments	Q	Assembler Directive
C	8255	R	Handshake
D	.Model	S	Built for specific purpose
E	Mode-1	T	64 KB

#### Part B

Answer **all** the Questions. **Each** question carries **ten** marks.

(3Qx10M=30M)

- 4) Discuss in detail, the Control word Register format for 8255 modes.
- 5) Write an 8086 ALP to display **HELLO** on a 7-Segment Display Interface using 8255 PPI
- 6) Explain 8086 Architecture with a neat diagram.

#### Part C

Answer **all** the Questions. **Each** question carries **six** marks.

(5Qx6M=30M)

- 7) Define Recursive Procedure. Write an 8086 ALP to find factorial of a number using recursion.
- 8) Give Flag Register format and discuss Carry, Auxiliary and Parity Flags.
- 9) Describe the following 8051 Instructions with examples:
  - a) MOVX
  - b) XCHD
  - c) CLR
- 10) For the following Pascal statements, write appropriate 8086 ALP code
  - a) IF X := 10 THEN Y := Y + 4 ELSE Z := 10;
  - b) I := 10; WHILE (I < 100) do I := I + 1;
- 11) Explain the following 8051 Addressing Modes with suitable examples:
  - a) Immediate addressing.
  - b) Register addressing
  - c) Direct addressing



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**SCHOOL OF ENGINEERING**

**SUMMER TERM/ MAKE UP END TERM EXAMINATION**

**Semester:** Summer Term 2019

**Date:** 24 July 2019

**Course Code:** CSE 206

**Time:** 2 Hours

**Course Name:** Microprocessors & Microcontrollers

**Max Marks:** 80

**Program & Sem:** B.Tech & IV Sem (2016 Batch)

**Weightage:** 40%

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**Instructions:**

- (i) *Question paper consists of three sections Part- A, B and C*
  - (ii) *Write answers to the point*
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**Part A**

Answer **both** the Questions. **Each** question carries **fifteen** marks. (2Qx15M=30M)

1. With a neat diagram explain the architecture of 8086 microprocessor along with function of each block and register.
2. With the help of neat block diagram, explain Mode 0, Mode 1 and Mode 2 operations of 8255 PPI

**Part B**

Answer **all** the Questions. **Each** question carries **ten** marks. (3Qx10M=30M)

3. With the help neat block diagram, explain the functioning of 8255A PPI
4. Write an ALP to sort N numbers in ascending order using Bubble sort technique.
5. Explain the following Data Transfer Instructions with example:

- (i) MOV
- (ii) PUSH
- (iii) ADC
- (iv) XLAT
- (v) LEA

**Part C**

Answer **both** the Questions. **Each** question carries **ten** marks. (2Qx10M=20M)

6. With a neat diagram explain the architecture of 8051 microcontroller.
7. a) Differentiate between RISC and CISC processors  
b) Compare Procedures and macros

