



DDD-1728

B. Sc. (I.T.) (Sem. IV) Examination
March / April - 2016
Microprocessor & Assembly Language

Time : 3 Hours]

[Total Marks : 70

Instruction :

नीचे दर्शाविए निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="checkbox"/> B. Sc. (I.T.) (SEM. 4)	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="checkbox"/> MICROPROCESSOR & ASSEMBLY LANGUAGE	<input type="text"/>
<input type="checkbox"/> Subject Code No. : <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="2"/> <input type="text" value="8"/> <input type="checkbox"/> Section No. (1, 2,.....) : <input type="text" value="NIL"/>	<input type="text"/>
	Student's Signature

- 1 Answer the following questions :
- (a) Answer the following short questions : (any four) 4
- List out segment registers in 8086 microprocessor.
 - Which instruction updates only status flags without storing result in 8086 ?
 - List out pins available to sense hardware interrupt on 8086 microprocessor IC.
 - Explain functionality of ALU in 8086 microprocessor.
 - Explain NOT instruction.
- (b) Answer the following questions in detail : (any two) 14
- Draw 8086 microprocessor and explain Bus Interface Unit (BIU) in detail.
 - (a) Draw 80486 microprocessor block diagram. 4
(b) Explain interrupt -0, interrupt -1, interrupt -2. 3
 - (a) Draw block diagram of 8255 programmable peripheral interface IC. 4
(b) Explain ALE, DEN, INTR pin of 8086 3 microprocessor.

- 2** Answer the following questions in detail : (any two) **18**
- (i) (a) Explain following pins in detail ; **6**
- AD0-AD15
 - HOLD
 - RD
 - INTA
 - READY
 - DT/\overline{R}
- (b) Draw block diagram of 8259 programmable interrupt controller IC. **3**
- (ii) Describe memory READ operation in minimum mode of 8086 microprocessor with the help of necessary circuit diagram and timing diagram.
- (iii) Write following instructions with examples : (any three)
- CMPSB
 - JZ
 - MOV
 - SUB
- 3** Answer the following questions : **18**
- (a) Answer the following short questions : (any six) **6**
- List out the POINTER registers of 8086 microprocessor.
 - What is the role of instruction queue of 8086 microprocessor ?
 - Which instruction use to store flag register content on stack memory.
 - When INT-0 interrupt is generated ?
 - Write software interrupt number of non-maskable interrupt (NMI).
 - Explain DF flag of 8086 microprocessor.
 - Which programmable IC is use as a programmable timer interval IC ?

- (b) Answer the following questions in detail : (any two) **12**
- (i) Explain instruction template of 8086 microprocessors in detail with example.
 - (ii) What are the steps to access interrupt service routine during interrupt generation ?
 - (iii) Describe following directives with examples :
 - (a) EQU
 - (b) DB
 - (c) LENGTH
- 4 Answer the following questions in detail : **16**
- (a) Find out given statements are true or false. **4**
- (i) 80286 is 16-bit microprocessor.
 - (ii) ALU is performing arithmetic operations only
 - (iii) 8086 microprocessor have 6-segment registers.
 - (iv) INT0 to INT-3 are user define interrupts in 8086 microprocessor.
- (b) Answer the following questions in detail : (any three) **12**
- (i) Write program to subtract 0×40 from consecutive 10 memory locations content starting from 0×7501 to $0 \times 750A$ and store result on memory location 0×8601 to $0 \times 860A$.
 - (ii) Describe memory addressing modes of 8086 microprocessor in detail with example.
 - (iii) Write program to find factorial for any number and store final result on memory location 0×9001 .

(iv) Write comments for given program.

```
MOV AX, 0×6000
```

```
MOV CS, AX
```

```
MOV SI, 0×0500
```

```
MOV DI, 0×0800
```

```
MOV DS, 0×4000
```

```
MOV BX, [SI]
```

```
MOV CX, 0X07
```

```
Abc: INC SI
```

```
INC DI
```

```
MOV AX, [SI]
```

```
ADD AX, BX
```

```
MOV [DI], AX
```

```
LOOP Abc
```

```
MOV BL, 02
```

```
MOV [SI], BL
```

```
END
```
