



**DHARMSINH DESAI UNIVERSITY, NADIAD**  
**FACULTY OF TECHNOLOGY**  
**B.TECH. SEMESTER V [INFORMATION TECHNOLOGY]**  
**SUBJECT: (IT-506) ADVANCE MICROPROCESSOR ARCHITECTURE**

**Examination : Block Exam (Regular)      Seat No. : \_\_\_\_\_**  
**Date : 20/10/2018      Day : Saturday**  
**Time : 11:00 to 12:15      Max. Marks : 36**

**INSTRUCTIONS:**

1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

**Q.1 Do as directed.**

- (a) If DS=10000, SS=20000, BP=0001 and SI=FFFF, IF MOV AX,[BP+SI] is executed, [2]  
from which physical memory locations, content will be transferred to AX register ?
- (b) The size of IVT and IDT tables are same. State True/False and justify (show your [2]  
calculation also)
- (c) If string related instructions are not used in the program, 8086 will never access ES [2]  
automatically. State True/False and justify your answer
- (d) What is the lifetime and scope of “Automatic” variable in “C”? Explain which [2]  
memory segment allocated for them in the system and how this will help to achieve  
above characteristics.
- (e) State the addressing mode for the following instructions :(i) Mov ax,[1234] (ii) Mov [2]  
ax,[bx]
- (f) If the variable TEMP is defined as TEMP DW 1234h. Write the Instruction to move a [2]  
MSB byte of variable TEMP into AL register such that assembler should not give  
any error.

**Q.2 Attempt all of the following questions.**

[12]

- (a) Write an assembly language program (for the assembler) to add ten 8 bit numbers [6]  
which are stored at Memory location defined as NUMBER. Draw neat flow chart and  
state your assumptions if any.
- (b) Explain how 48-bit far pointer (virtual address in program) of 80386 in PM is [6]  
translated into physical address space in detail and how 80386 manages the 32  
Tbytes local virtual memory and 32 T bytes global virtual memory address space in  
detail.

**Q.3 (a) Distinguish between anti- dependency and output dependency with appropriate [6]  
example.**

- (b) The following is valid data segment descriptor : [6]

		byte
00h	C0h	6
91h	80h	4
0080h		2
FFFFh		0

Now if following instructions are executed :

MOV EBX,10000000H

MOV [EBX],11111111H

Explain, before executing MOV[EBX],11111111h instruction, what are all the checks processor will do and mention if any exception(s) can be generated due to above checks. If any exception(s), modify the content of the above descriptor, such that above instruction can execute properly.

