

 SIES Graduate School of Technology RISE WITH EDUCATION NMACA+ (Affiliated to University of Mumbai)		End Semester Examination (R-24)SH 2025 Answer Key with marking scheme	
Branch: EXTC		Course: Microprocessor and Microcontroller	
Year/ Semester: SE/III		Course code:ETC303	
Time: 03 hours		Marks: 80	
			Marks
Q. 1	Attempt any FOUR. (All questions carry equal marks)		
A.	Assembly language program using 8086 instruction set to convert Packed BCD number to Unpacked BCD numbers <pre> MOV SI,1000H MOV DI, 2000H MOV BL,[SI] AND BL,0FH MOV[DI].BL MOV AL,[SI] AND AL,0F0H MOV CL,04H ROR AL,CL MOV [DI+1],AL RET </pre>		5
B.	Cortex A explanation – 2.5 Marks Cortex M Explanation - 2.5 Marks		5
C.	List of interrupt 1 Marks Any 2 interrupt details : 4 Marks		5
D.	Instruction explanation : 3 Marks Example : 2 Marks		5
E.	Write Assembly language program using 8086 instruction set to determine how many times “e” exists in “exercise” <pre> DATA SEGMENT STRING DB “exercise” COUNT DB 00H DATA ENDS CODE SEGMENT ASSUME CS:CODE , DS:DATA MOV AX, DATA MOV DS, AX LEA SI, STRING MOV CX, 08H MOV BL,00H MOV AL, “e” BACK: CMP AL,[SI] JNZ SKIP INC BL SKIP: INC SI LOOP BACK MOV COUNT,BL INT 3 CODE ENDS END </pre>		5

F.	Diagram : 2 Marks Explanation : 3 Marks	5
Q.2	Attempt any FOUR. (All questions carry equal marks)	
A.	Minimum mode diagram : 4 Marks Explanation : 6 Marks	10
B.	List of interrupt of ARM : 2 Marks IVT : 2 Marks Explanation : 6 Marks	10
C.	Diagram: 2 Marks Internal interrupt explanation : 5 Marks External Interrupt Explanation: 3 Marks	10
D.	Memory segmentation diagram : 1Marks Explanation : 4 Marks Memory banking : 5 Marks	10
E.	. Timer introduction : 2 Marks 4 different mode explanation with diagram : 8 Marks	10
F.	Architecture diagram : 4 Marks Explanation : 6 Marks	10
Q.3	Attempt any FOUR. (All questions carry equal marks)	
A.	Assembly language program using 8086 instruction set to find factorial of number. MOV SI, 1000H MOV DI, 2000H MOV CX,[SI] MOV AX,0001H MOV DX, 0000H MOV BX, 0001H SKIP: MUL BX DEC CX CMP CX,00 JE HERE INC BX JMP HERE HERE: MOV [DI],AX MOV [DI+2],DX RET	
B.	List of addressing mode : 1 Mark 2 addressing mode in detail : 4 Marks	5
C.	List of different stage of pipeline – 1 Mark Explanation - 4 Marks	5
D.	features of ARM-7- 5 Marks (any 7 Point)	5
E.	Structure of PSW- 2 Marks Explanation-3 Marks	
F.	Write Assembly language program using 8051 instruction set to send message “ COMPUTER” serially at baud rate of 9600. ORG 00H ... MOV TMOD ,#20H; MOV TH1, # 0FDH; MOV SCON,#50H; SETB TR1;	

	REPEAT: MOV A,# " C" ACALL AGAIN MOV A,# " O" ACALL AGAIN MOV A,# " M" ACALL AGAIN MOV A,# " P" ACALL AGAIN MOV A,# " U" ACALL AGAIN MOV A,# " T" ACALL AGAIN MOV A,# " E" ACALL AGAIN MOV A,# " R" ACALL AGAIN SJMP REPEAT AGAIN :MOV SBUF,A HERE: JNB,TI,HERE CLR TI RET END	
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