

VI Semester B.Sc. Examination, May/June 2018 (CBCS) (2016-17 and Onwards) (Fresh + Repeaters) ELECTRONICS – VIII Microcontrollers

Time: 3 Hours Max. Marks: 70

Instructions: Answer all the questions from Part – A, any five from Part – B and any four from Part – C.

PART - A

Note: Answer all the questions of Part – A in any one page, answering the same question multiple times will not be considered for evaluation.

15) The total external data memory that can be inten-	
Answer all the sub-divisions.	(15×1=15)
1. 1) The RAM size of 8052 microcontroller is	c) 00H to 7FH
a) 128 bytes engage and a of a b) 256 bytes	(he 8-bit address bus
c) 64 bytes Haaa of 000 (d d) 4K bytes	a) 0000 to FFFFH
2) The 8051 has16-bit counter/timers	Witelforthosoroim (208 to c) 00 to FFH
3. E a) 1 how the internal RAM is organb) 4 in 8051 r	nicrocontroller, sni Magnitude of the uns
c) 3 example, explain :aas of 0 (d) 2	a) Magintude of the dria
3) The SP is of wide register. And anywhere in the.	this may be defined
a) 8 byte, on-chip 128 byte RAM	10) Which of the following
b) 8 bit, on chip 256 byte RAM	byte of timer 0 ?
c) 16 bit, on-chip 128 byte ROM	a) MOV TH0, #35H
d) 8 bit, on chip 128 byte RAM	c) MOV T0, #35H
4) Which of the following instruction is wrong?	11) Which of the following
a) INC DPTR - ATSG SML (d b) MOV @DF	

c) DEC @DPTR

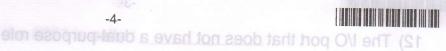
d) MOV A, @A + DPTR



SM - 423	-2-	
5) The flag register in the 805		7 1 1 1 1 1 1 1 1 1
a) Program counter	b) Stack pointer	(DOGO Inc.)
MOV A,#0BH	and executing the folio	owing instructions
ANL A,#2CH	On TRANS.: Answer all the questions fro	ime: 3 Hours a) TCON and Instructions
a) 00001000	and any four from Part—	19 (4×5=20)
c) 11011010	d) 00101000	tive reasonable
7) What is the bit addressing rar on-chip RAM?	nge of addressable individua	al bits over the
a) 00H to FFH	b) 20H to 2FH	
c) 00H to 7FH	d) 80H to FFH	
8) The 8-bit address bus allows a	access to an address range	THE HAM SIZE
a) 0000 to FFFFH 29tyd)	b) 000 to FFFH	c) 64 bytes
c) 00 to FFH	d) None of the above	
Magnitude of the unsigned cha	ar data tyne is	
a) 0 to 255	2 (0	
c) -128 to 127	d) - 127 to 128	
10) Which of the following instruction byte of timer 0 ?	ons will load the value 35H i	nto the high
a) MOV TH0, #35H	chip 256 byte RAM b) MOV THO, 35H no-n	
c) MOV T0, #35H	d) MOV T0, 35H gino	
11) Which of the following instruction	nerform jump indirect	d) 8 DIT OIL
C) SIMIL & ATDE IR	(b) 184D D ===	
c) JMP A+DPTR A A VOM	d) SJMP A+DPTR	a) INC.DE

	12) The I/O port that does not have	a dual-purpose role is	
	a) Port 0'	b) Port 1	
	c) Port 2	d) Port 3	
	13) Which among the below stated roof special function registers?	registers does not belong to the category	
	a) TCON and TMOD	b) THO and TLO	
	c) P0 and P1	d) SP and PC : any four questions : 39 bns 98	
	14) In 8051 which interrupt has high	Explain the bit structure of IE Sylinoirg teen	
	a) IE 1 c) IE0	b) TF0 d) TF1 Write a program to sort the given the giv	
	15) The total external data memory	that can be interfaced to the 8051 is	
		to (c) 128 K (money d) 256 K	
	PAR	memory locations and store the results in r	
Ar	nswer any five questions :	Write-an 8051 C program te-loggle-only on \$7=35.	6
	OFFICE REFERENCE OF THE SECOND	the architecture of 8051 microcontroller.	,
		HAT O	
3.	Explain how the internal RAM is org	ganized in 8051 microcontroller.	
4.	With an example, explain:	ide register. And this may be defended	
	i) Register addressing ii) Direct addressing and	ioe register. And this may be distribute	
	iii) Indirect addressing modes of	8051.	
5.	Explain the operations of the following		
	i) RLC A		
	ii) DA A		
	iii) MUL AB iv) AJMP addr.		
6		mode solvations a DPTP	
6.	What is a timer? Explain the timer in	mode operations.	

7. Explain the C-data types for 8051 microcontroller.



- 8. With necessary diagram, explain the method of interfacing steppar motor the accumulator after executing the following insti 8051.
- 9. Explain the features of PIC microcontrollers.

OUT by PART + C

Answer any four questions: 09 bns 92 (b) 19 bns 09 (4×5=20)

- 10. Explain the bit structure of IE register and IP registers of 8051.
- 11. Write a program to sort the given numbers in ascending order.
- 12. Write a program to find 2's complement of a 16 bit number.
- 13. Write a program to perform the addition of two 8-bit numbers stored in two memory locations and store the results in next two memory locations.
- 14. Write an 8051 C program to toggle only one bit P1.5 continuously 5,000 times. Answer any five questions
- 15. With a necessary diagram, explain the interfacing of LCD to PIC 16F877 A.

Explain how the internal RAM is organized in 8051 microcontroller. With an example, explain:

#60V THO, #35H