

Total No. of Printed Pages:2

SUBJECT CODE NO:- B-2068
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019
Electronics Paper- XVI
A) Micro Controller – I

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N.B

- 1) Attempt all questions
- 2) All questions carry equal marks.
- 3) Use only blue or black pen
- 4) Draw flow charts wherever necessary.

- Q.1 Attempt any one 10
 a) Draw the labeled blocks diagram of 8051 microcontroller.
 b) Explain about CISC and RISC process.
- Q.2 Attempt any one 10
 a) Explain the meaning of following instructions with one example in each case.
 MOV A, 90H
 ANL A, R2
 ADD A, @R1
 RLC A
 INC DPTR
 b) Explain the bit pattern of IE special function register.
- Q.3 Attempt any one 10
 a) Give the pin description of ATMEL 89c 2051.
 b) Write a program in assembly language for 8051 microcontroller for pulse width measurement.
- Q.4 Write short notes on any two. 10
 a) Program status word in 8051.
 b) Register indirect addressing mode in 8051 with example
 c) Interrupts in MCS-51
 d) Staircase ramp generation using 8051 microcontroller.
- Q.5 Attempt the following 10
 1) Crystal used for clock generation in 8051 microcontroller has frequency of
 a) 5 MHz b) 8MHz c) 10 MHz d) 11.059 MHz
 2) Which register generally stores the output generated by ALU in several arithmetic and logical operations?
 a) Accumulator b) Special function register c) Timer register d) Stack pointer

- 3) The 8051 microcontroller has -----number of parallel I/O ports.
a) 2 b) 3 c) 4 d) 5
- 4) 89C2051 microcontroller has -----flash PEROM.
a) 1 k b) 2k c) 3k d) 4k
- 5) 89C2051 and 89C51 have -----16-bit timer
a) 2 b) 3 c) 4 d) 5
- 6) Which of the following instructions has correct syntax?
a) DIV A, B b) DIV AB c) DIV A×B d) DIV BA
- 7) Which of the following instructions add the contents of register RI to A.
a) ADD A, @RI b) INC A c) ADD A, RI d) None of the above
- 8) RETI is the last instruction of
a) Main program b) Interrupt service routine c) Subroutine d) None of above
- 9) The 8051 microcontroller has internal RAM of -----bytes.
a) 1 k b) 512 c) 256 d) 128
- 10) The instruction that does not affect the carry flag is
a) SWAP A b) RLC A c) ADD A, RI d) RRC A

OR

Total No. of Printed Pages:2

SUBJECT CODE NO:- B-2068
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2019
Electronics Paper- XVI
B) 8085 Interfacing-I

[Time: 1:30 Hours]

[Max. Marks: 50]

N.B Please check whether you have got the right question paper.

- N.B
- 1) Attempt all questions
 - 2) Illustrate your answer with suitable labelled diagram.

Q.1 Explain the method to select I/O operating modes of 8255 PPI. Explain MODE1 of 8255 PPI with input and output mode interfacing diagram. 20

OR

Draw the memory interface diagram to interface $8k \times 8$ memory 8085 microprocessor using $2k \times 8$ chips select starting address 1000H and write the address range of each chip.

Q.2 Draw the block diagram of 8251 and explain the function of each block. 20

OR

Write short note on any four of the following

- a) Pin function of 8255PPI
- b) Asynchronous receive mode of 8251
- c) MODE 1 of 8255PPI (only output)
- d) Memory decoding technique (any one)
- e) Status word format of 8251
- f) Function of any ten control signals in 8251 serial communication interface.

Q.3 Attempt the following by selecting correct option. 10

- 1) Direct bit set/reset capability is available for-----
 a) Port A b) Port B c) Port C d) Port A and Port B
- 2) In 8255PPI, -----is used to perform bidirectional operation.
 a) MODE0 b) MODE1 c) MODE2 d) MODE3
- 3) The control word to set all the ports of 8255 in output mode with mode0 is-----
 a) 40H b) 60H c) 80H d) 90H
- 4) Internal bus of 8251 is -----bit.
 a) 4 b) 8 c) 16 d) 32

- 5) -----signal is used to select 8251 chip.
a) \overline{CS} b) \overline{RD} c) \overline{WR} d) \overline{RTS}
- 6) -----address lines are required to address a memory of size 64k.
a) 12 b) 13 c) 15 d) 16
- 7) -----pin is used to control the rate at which the character is to be transmitted.
a) $\overline{T_xC}$ b) T_x Empty c) $T_x D$ d) $\overline{R_xC}$
- 8) 8251 has -----pins.
a) 16 b) 20 c) 28 d) 40
- 9) The control word register to set PORTA and C as output and PORTB as input in mode 0 will be -----
a) 80H b) 82H c) 90H d) 95H
- 10) The control word register to set bit 7 of PORTC in BSR mode will be -----
a) 04H b) 05H c) 07H d) 0FH