AC-3062

Second Year B. Sc. (Sem. - IV) Examination

April / May – 2015

Electronics : Paper - IV

(Microprocessor Circuits & Application)

Time : Hours]   [Total Marks : 50

Instructions :

(1)

(2)   Q.1 is Compulsory

(3)   Figures at extreme right indicate full marks.

(4)   Abbreviations have their usual meaning.

Q. 1   Answer in brief.   8

A)   State various Flags that are available for the programmer of 8085A microprocessor

B)   What is the difference between Stack and Stack Pointer?

C)   State the function/use of HOLD and HLDA pin of 8085A.

D)   State various addressing modes of 8085A microprocessor.

Q. 2   14

A)   Write a program to arrange a 10 data in ascending order. Use subroutine for the appropriate segment of program.

B)   What do you understand by program status word (PSW)? Does a programmer have a direct access to PSW? Write a program to verify the bit pattern of a PSW.

OR

Q. 2   14

A)   Draw the block diagram of 8085A architecture and explain each block in detail.

B)   Write a program to

(1) mask-off 1, 3, 5, 7 bit of 8-bit data $(D_8D_7D_6D_5D_4D_3D_2D_1)$
(2) mask-off 2, 4, 6, 8 bit of 8-bit data.
(3) mask-off least significant 4-bits of 8-bit data.
(4) mask-off most significant 4-bits of 8-bit data.

Q. 3   14
A)   Explain the function of following pins of 8085A.

(1) HOLD   (2) ALE   (3) RESET   (4) READY   (5) INTR

(6) S_0 & S_1 (7) CLK(OUT)

B)   Explain various instructions :

(1) XCHG   (2) STA addr   (3) ANA r   (4) XRA r

(5) RAR   (6) CMP r   (7) JNC addr

OR
Q. 3   14
A)   Explain the timing diagram for the (i) Instruction fetch, (ii) Memory Read (iii) Memory write (iv) IO read and (v) IO write operation of 8085A microprocessor.

B)   Explain the block diagram of 8255 Programmable Peripheral Interface chip and explain each block

Q, 4   14
A)   Explain various registers along with flag register in detail of 8085A.

B)   Write a program to add two 8 bit numbers where result must be 8-bit. Extend your program to add two 8 bit numbers where result may be more than 8-bit

OR

Q. 4
A)   Explain the block diagram of 8253 Programmable Interval Timer chip   14 and explain each block

B)   Write a program to count number of 0's in the byte of accumulator.