VPM's B. N. Bandodkar College of Science, Thane.
Junior College
S.Y.J.C. 1st Term Examination, October 2018
Subject - Computer Science; Paper II (Computer Hardware)

Time: 3 Hours **Max. Marks: 50**

Note: 1) All questions are compulsory.

Q. 1 A Select the correct alternatives and rewrite the following 4

a) In 8085 name/names of the 16 bit registers is/are
i. SP ii. PC iii. Both a & b iv. None of these

b) The flag register of 8085 microprocessor contains _____flags.
i. 8 ii. 3 iii. 7 iv. 5

c) _____instruction does not affect the flag.
i. CMP C ii. RAR iii. XRA iv. MOV A,B

d) _____ cable uses light to transmit data.
i. Coaxial ii. Fiber Optic iii. STP iv. UTP

B Answer anytwo of the following 6

a) What are the functions of an accumulator?

b) Explain functions of the following pins of 8085 microprocessor:
i. Multiplexed address/data bus pin ii. RST 6.5
iii. HLDA

c) Define the following terms with suitable diagrams:
i. T state ii. Machine cycle iii. Instruction cycle

Q. 2 A Answer any two of the following 6

a) Differentiate between Micro-controller and a micro-processor.

b) Explain any three addressing modes of 8085 with examples.

c) Explain in short:
i. Star topology ii. Bus topology iii. Ring topology

B Answer any one of the following

a) Draw the labeled internal block diagram of 8085 Micro-processor.

b) What are Hardware Interrupts? Explain Vectored and Non-vectored Interrupts of 8085 MPU.

Q. 3 A Answer any two of the following 6

a) State any six features of 8051 microcontroller.

b) Explain Ethernet protocol used in Network.

c) Write a function of following functional units of 8085 microprocessor
i. Instruction decoder ii. General purpose register
iii. Data / Address buffer

B Answer any one of the following 4

a) Give advantages of Fiber Optic Cable over an electrical cable.

b) Explain PUSH and POP instructions of 8085.

Q. 4 A Answer any two of the following 6

a) Distinguish between LAN and WAN.

b) Explain the following instructions of 8085 Microprocessor with one example of each:
i. INX rp ii. DAD rp iii. RRC

c) State any six applications of microcontroller

B Answer any one of the following 4

a) What is Transmission Media? Explain in short six characteristics of Transmission Media.

b) Explain any four flags of 8085, giving example.

Q. 5 Answer any two of the following 10

a) Write an Assembly Language Program (ALP) to copy the a block of data having starting address 4500H to new location starting from 4600H in reverse order .

b) Write an ALP to multiply a number stored at location 1050 H by 09H. Store the 2-Byte result at locations 1052H and 1053H with lower byte at 1052 H.

c) Write an ALP to divide number at 6068 H by a non-zero number at 6067H. Store the quotient at 6069 H and remainder at 606AH.

OR

Q. 5 Answer any two of the following

a) Write an ALP to fill memory locations 4500 H to 4504 with the Hexadecimal numbers 09 H to 0D H respectively.

b) Write an ALP to locate smallest number in a block from 2050 H to 2060 H and store it in memory location 2061 H.

c) Accumulator contents of 8085 are B7 H and register B contents are A5 H. What will be the effect of following instructions on the contents of accumulator, when executed independently?

i. ADI 05
ii. CMP B
iii. CMA
iv. XRA B
v. ORA B

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