4th March – 2021   Microprocessor and Interfacing Techniques (CS202)   Seat No. _____

[Time: 35 Min.]   PART-2   [Total Marks: 16]

1.   Answer to the following:

a.   Write an 8085 ALP to implement Subroutine to convert Binary data bytes to Un-packed   04
     BCD. Use this subroutine to convert set of ten binary data bytes to its equivalent Un-
     Packed BCD. Use your own start and end address for input and output.

b.   Considering the following segment of 8085 ALP, draw and explain timing diagram for   04
     XTHL instruction.
         2000 LXI SP,FFF3H
         2003 LXI B,567AH
         2005 LXI H,1234H
         .....
         .....
         2009 PUSH H
         200A PUSH B
         200B XTHL
         .....

c.   The following program reads one data byte at a time. (i) Identify the data bytes from the   04
     following set that will transfer the program to location ACCEPT. (ii) Identify the range of
     numbers in decimal that will transfer the program to location INVLD.
     Data(H): 19, 20, 64, 8F, D8, F2
         IN PORT1
         MVI B,20H
         CMP B
         JC REJECT
         JM REJECT
         STA 4070H
         JMP ACCEPT
         REJ: JMP INVLD

d.   Write an 8085 ALP to meet the following specifications(in single program):   04
     i. Initialize the stack pointer register at XX99H.
     ii. Clear the memory locations starting from XX90H to XX9FH.
     iii. Load register pairs B, D, and H with data 0237H, 1242H and 4087H, respectively.
     iv. Push the contents of the register pairs B, D, and H on the stack.
     v. After executing the program what will be the contents of the memory locations from
        XX90H to XX9FH.