

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PPH2107	MICROPROCESSOR AND MICROCONTROLLER

SECTION – B**Answer all the questions:****5 x 5 = 25**

31. a. Explain the different addressing modes of 8085. With one example each.

OR

- b. Explain any five data transfer instructions used in 8085 with examples.
32. a. Write an assembly language program for 8085, to ADD two data:

<u>Data 1:</u>	AB	CD	EF	FA	BB
<u>Data 2:</u>	84	9A	57	02	

OR

- b. Write an assembly language program to find the square of number 01 to 09 using look-up-table. Write the necessary table. Let the input numbers are from 8D01 – 8D09. And the square (output) should be available at 8D0A
33. a. (i) What is stack in 8051?
- (ii) Show the stack and the stack pointer for the following instruction.
- ```
MOV SP, #5F H
MOV R2, # 25 H
MOV R1, # 12 H
MOV R4, # 0F 3H
PUSH 2
PUSH 1
PUSH 4
```

**OR**

- b. (i) What is a machine cycle of 8051? How is it used in calculating the time delay?
- (ii) The following show crystal frequency for three different 8051 – based system. Find the period of machine cycle in each case.
- a) 11.0592 MHz   b) 16 MHz   c) 20 MHz.
34. a. Explain the different steps involved in mode 1 of 8051-Timers.

**OR**

- b. List out the steps in order that are involved in programming the 8051 to transfer data serially.
35. a. How will you interface a CRO to view the square wave generated with the help of 8255 by 8085. Draw the necessary hardware set up. And write the Assembly Language program for it. [train of pulses with regular intervals].

**OR**

- b. Draw a neat sketch of interfacing 8051 with DAC 808 via P1.0 – P1.7. connect this circuit to an oscilloscope. Write a program to send data to the DAC to generate a stair-step ramp.

### **SECTION – C**

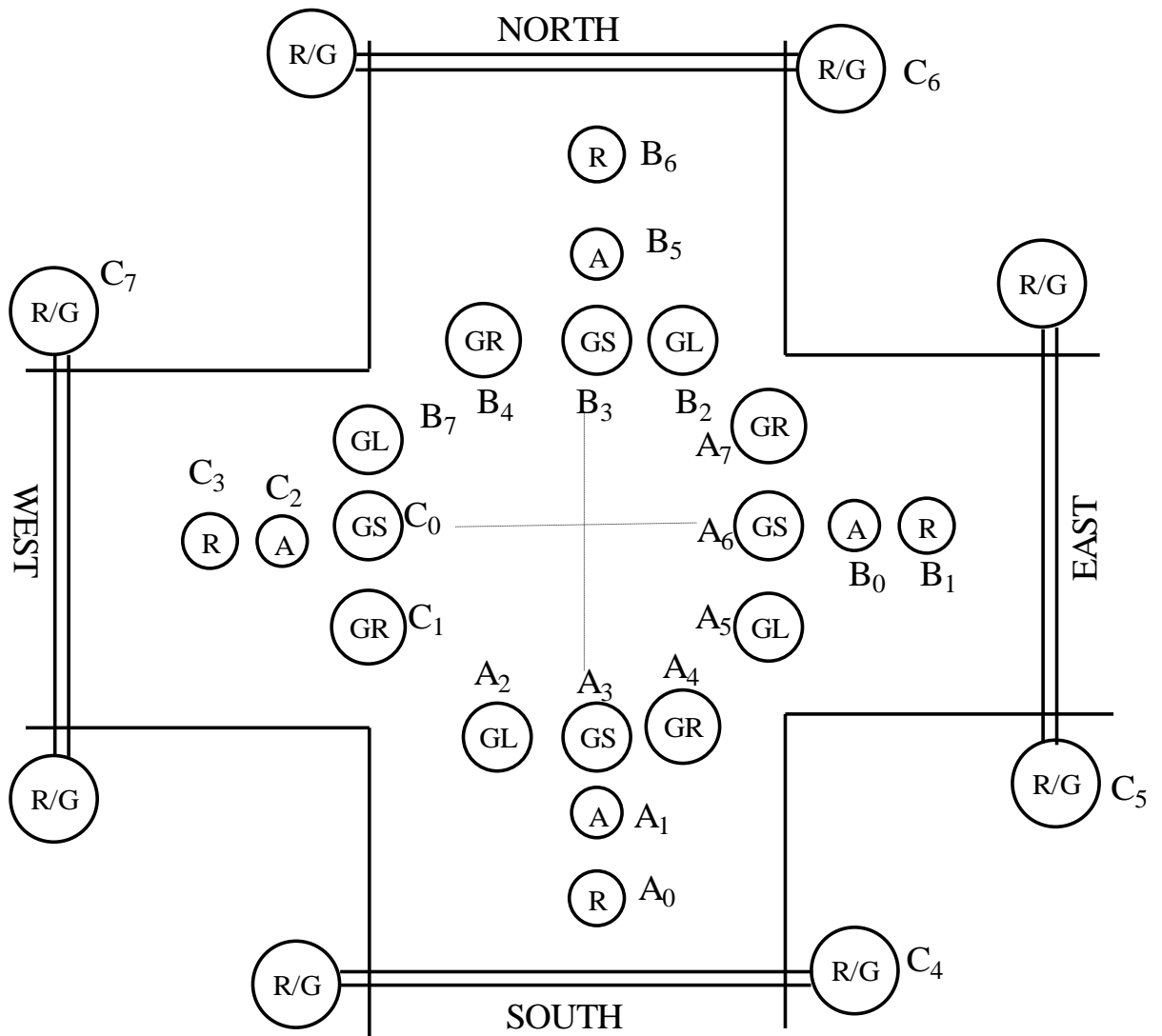
**Answer any THREE questions:**

**3 x 15 = 45**

36. (i) Draw the internal architecture of 8085 microprocessor. Draw all pins in the diagram. (10)
- (ii) List out any five differences between Direct I/O and Memory Mapped I/O. (5)
37. Write an assembly language program for arranging the given array of data in ascending order. Write necessary comments whenever necessary.
38. (i) Draw the pin configuration of 8051-micro controller. (5)
- (ii) Explain different data types and directives of 8051. (10)
39. (i) Explain the hardware set up of 8051 connection to Rs.232. draw the necessary circuit that deals with MAX 232 and Null modem with 8051. Give a detail diagram of internal configuration of MAX 232. (10)

- (ii) Write a program to generate a square wave of 50Hz frequency on pin 1.2 using an interrupt for timer 0. Assume XTAL frequency = 11.0592 MHz. (5)

40.



Sequence for a Road:

Green  
Amber  
Red

In the diagram

GL → Green Left

GS → Green Straight

GR → Green Rights

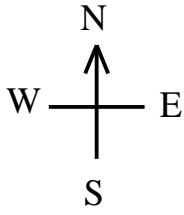
A → Amber

R → Red

R/G → Dual coloured LEDs

Green LEFT is FREE LEFT

For a junction of 4-roads of the above set generate the data codes to be fed for Port A, Port B, Port C in an order of CLOCKWISE



starting from  
pedestrians.

SOUTH. At the end write the coding for

\*\*\*\*\*