puper Code: U359-132 (T1)

MARKING SCHEME
OCTOBER 2019/ INSEM (T1)
T. Y. B. TECH.
(ELECTRONICS AND TELECOMMUNICATION)
(SEMESTER - I)
COURSE NAME: MICROCONTROLLER AND APPLICATIONS
COURSE CODE: ETUA31172
(PATTERN 2017)

Time: [**1 Hour**]   [Max. Marks: **30**]

Q. 1) a) ii. For explanation of each pin 1 ½ marks X 4 = 6 Marks   6 Marks

b) Draw the PORT1 structure → 3 Marks   6 Marks
Explanation of reading and writing process → 3 marks

c) Compare Von-Neumann and Harvard architecture.   4 Marks
1 mark for each point

OR

Q. 2) a) Interface 4Kbytes of data and 8 Kbytes of program memory with   6 Marks
8051 microcontroller. → 4 marks
Clearly indicate the necessary pins → 2 marks

b) What are interrupts?   → 2 marks   6 Marks
And where it is used?   → 1 mark
Draw the IE register,   → 2 mark
and configuration   → 1 marks

c) An engineer has designed 8051 microcontroller based system   4 Marks
for collecting the temperature relative humidity and other
parameters normally used in analysis of weather conditions,
the system is placed at few meters away from the control room,
and wants to transfer the data to the computer in control room
periodically suggest him a low cost and efficient method for
transferring the data.

Q. 3) a) Program → 3 marks   6 Marks
       Calculation of delay → 3 marks

    b) Describe the following addressing modes with example   4 Marks
          i.   Register addressing mode → 2 marks
          ii.   Indirect addressing mode. → 2 marks

    c) What is Logic Analyzer? → 2 marks   4 Marks
       List the features of Logic Analyzer. → 2 arks

OR

Q. 4) a) Write an assembly language program n 8051 to transmit a   6 Marks
       letter V over a serial port with 9600 baud continuously.
       Program → 4 marks
       Calculation of Baudrate → 2 marks

    b) Explain the following Instructions with suitable example   4 Marks
          i. RRC A   → explanation 1 mark and example 1 mark
         ii MUL AB   → explanation 1 mark and example 1 mark

    c) What is assembly language programing? → 2 marks   4 Marks
       What is .asm and .hex/.obj files? → 2 marks