

SANT GADGE BABA AMRVATI UNIVERSITY, AMRAVATI
Summer Examination 202 Credit Point0
HVPM's College of Engineering and Technology, Amravati
Department of Electronics & Tele communication Engineering
Bachelor of Engineering Sem. :- VII

Subject :-Microcontrollers & Applications(MCA)

Code :- 7XT2

Instructions:-

- 1) Solve any two questions**
 - 2) All question carry equal marks**
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Q1.

- a) Explain in brief various types of registers in 8051 microcontroller. **02 Credit Point**
- b) Write a program to add two 8 bit numbers & stored the result in register R1. **02 Credit Point**
- c) Draw an interfacing diagram of ADC 0809 with 8051 **02 Credit Point**
- d) How we control the speed of DC motor explain in brief. **02 Credit Point**
- e) Explain operating modes of serial communication. **01 Credit Point**
- f) What are the data types in 8051 C. **01 Credit Point**

Q2.

- a) Explain the architecture of 8051. **02 Credit Point**
- b) Write a program to store the data 55H into the memory locations from 20H to 25H. **02 Credit Point**
- c) Explain the working of LM35 temperature measurement sensor. **02 Credit Point**
- d) Draw and explain LCD interfacing with 8051. **02Credit Point**
- e) Why MAX232 is necessary to interfaced in between 8051 and RS232. Explain in brief. **01 Credit Point**
- f) Write a program to blink LED connected with P0.1 port continually by 8051 C. **01 Credit Point**

Q3.

- a) Explain the role of PSEN, EA , & ALE pins of 8051 IC. **02 Credit Point**
- b) Explain in brief the execution of 1) MOV A, @R1 2) DJNZ R0,label 3) ADD A,#0FFH. **02 Credit Point**
- c) Interface DAC 0808 & write a program to generate Saw-Tooth waveforms. **02 Credit Point**
- d) Draw stepper motor interfacing with 8051. **02 Credit Point**
- e) Draw the structure of SCON register. **01 Credit Point**

- f) Write a program to send the value FFH to the port P2 continually by 8051 C. 01 Credit Point

Q4.

- a) Explain the working of Program status word (PWR) register of 8051. 02 Credit Point
- b) Write a program to transfer the 10 data bytes from external memory locations 2000H onwards to the internal memory locations 40H onwards. 02 Credit Point
- c) Write a program to generate square wave on 8051 port pin P1.1 using DAC 0808. 02 Credit Point
- d) Draw & Explain opto-isolator interfacing with 8051 in details. 02 Credit Point
- e) Draw RTC interfacing with 8051. 01 Credit Point
- f) Write a program to send the data letter " Y" on port P3 by 8051 C. 01 Credit Point