

# Unit 9 - Week 7

**Course outline**

How does an NPTEL online course work?

**Week 0**

**Week 1**

**Week 2**

**Week 3**

**Week 4**

**Week 5**

**Week 6**

**Week 7**

- Lecture 32 : 8051 Microcontroller(Contd.)
- Lecture 33 : 8051 Microcontroller(Contd.)
- Lecture 34 : 8051 Microcontroller(Contd.)
- Lecture 35 : 8051 Microcontroller(Contd.)
- Lecture 36 : 8051 Programming Examples
- Week 7 Lecture Material
- Week 7 Feedback Form
- Quiz : Assignment 7

**Week 8**

**Week 9**

**Week 10**

**Week 11**

**Week 12**

Download Videos

Detailed Assignment Solution

Text Transcripts

Live Interactive Session

## Assignment 7

The due date for submitting this assignment has passed. **Due on 2020-03-18, 23:59 IST.**  
As per our records you have not submitted this assignment.

- 1) Find the value of TMOD for the the following constraints:  
program timer 1 in mode 1, use 8051 XTAL for the clock source, and The timer should start or stop using internal instructions
- TMOD = 02h
  - TMOD = 20h
  - TMOD = 10h
  - TMOD = 01h
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: c.
- 2) In 8051, timer 1 run can be controlled by
- TR1
  - TF1
  - IE1
  - TI1
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: a.
- 3) Which register in an 8051 microcontroller contains the SMOD bit?
- SBUF
  - TMOD
  - PCON
  - TCON
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: c.
- 4) The delay produced by 8051 Mode 1 timer with TH=20 and TL=0F, crystal frequency 11.0592MHz is
- 5.183 milliseconds
  - 62.201 milliseconds
  - 60.201 milliseconds
  - 52.38 milliseconds
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: b.
- 5) In Timer Control Register of 8051, Mode 0 use
- 13 bit timer
  - 16 bit timer
  - 8 bit timer
  - 12 bit timer
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: a.
- 6) Which pins of an 8051 microcontroller function as the RxD and TxD pins during a serial communication operation?
- TxD – P3.1, RxD – P3.0
  - TxD – P3.0, RxD – P3.1
  - TxD – P3.0, RxD – P3.0
  - TxD – P3.1, RxD – P3.1
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: a.
- 7) Default interrupt priority order in 8051 microcontroller?
- INT0 > TF0 > INT1 > TF1 > RI + TI
  - INT0 < TF0 < INT1 < TF1 < RI + TI
  - INT1 > TF1 > INT0 > TF0 > RI + TI
  - INT1 < TF1 < INT0 < TF0 < RI + TI
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: a.
- 8) which of the following instruction, program the IP register to assign the highest priority to TF0(Timer Interrupt 0)
- MOV IP,#00000100B
  - MOV IP,#00000010B
  - MOV IP,#08h
  - MOV IP,#01h
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: b.
- 9) Suppose contents of IP register is 07h, what happens if INT0, INT1, and TF0 are activated at the same time. Assume the interrupts are edge-triggered.
- INT0 interrupt serviced first
  - INT1 interrupt serviced first
  - TF0 interrupt serviced first
  - All interrupts serviced at same time
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: a.
- 10) Assume that after reset, the interrupt priority (IP) is updated with instruction MOV IP,#00001100B. What is the correct order of priority.
- INT0 > TF0 > INT1 > TF1 > RI + TI
  - INT0 < TF0 < INT1 < TF1 < RI + TI
  - INT1 > TF1 > INT0 > TF0 > RI + TI
  - TF1 > INT1 > INT0 > TF0 > ri + TI
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: c.
- 11) Identify which of the following program transfer value 45H serially (one bit at a time and start from LSB to MSB) via pin P2.1. Put two highs at the start and end of the data.
- |  |  |
|--|--|
| a) MOV A,#45H<br>SETB P2.1<br>SETB P2.1<br>MOV R5,#8<br>AGAIN: RLC A<br>MOV P2.1,C<br>DJNZ R5, AGAIN<br>SETB P2.1<br>SETB P2.1 | b) MOV A,#45H<br>SETB P2.1<br>SETB P2.1<br>MOV R5,#5<br>AGAIN: RRC A<br>MOV P2.1,C<br>DJNZ R5, AGAIN<br>SETB P2.1<br>SETB P2.1 |
| c) MOV A,#45H<br>SETB P2.1<br>SETB P2.1<br>MOV R5,#8<br>AGAIN: RL A<br>MOV P2.1,C<br>DJNZ R5, AGAIN<br>SETB P2.1<br>SETB P2.1  | d) MOV A,#45H<br>SETB P2.1<br>SETB P2.1<br>MOV R5,#8<br>AGAIN: RRC A<br>MOV P2.1,C<br>DJNZ R5, AGAIN<br>SETB P2.1<br>SETB P2.1 |
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: d.
- 12) An alternate function of port pin P3.0 in the 8051 is:
- Timer 0 external input
  - Serial input port
  - External data memory write strobe
  - External data memory read strobe
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: b.
- 13) In serial communication which of the following mode of operation receives or transmits 10 bits?
- Mode 0
  - Mode 1
  - Mode 2
  - Mode 3
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: b.
- 14) The following program generates a square wave on pin P1.5 Using timer1, Find the frequency. Consider XTAL = 11.0592 MHz.
- ```
MOV TMOD, #10H
AGAIN: MOV TL1, #34H
MOV TH1, #12H
SETB TR1
BACK: JNB TF1, BACK
CLR TR1
CPL P1.5
CLR TF1
SJMP AGAIN
```
- 3.25 Hz
  - 15.14 Hz
  - 7.57 Hz
  - 6.57 Hz
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: c.
- 15) For an 8051 microcontroller, what is the combination of the START and STOP bits while performing a serial communication operation?
- START – Low, STOP – Low
  - START – Low, STOP – High
  - START – High, STOP – Low
  - START – High, STOP – High
- a.  
 b.  
 c.  
 d.
- No, the answer is incorrect.  
Score: 0  
Accepted Answers: b.