

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022  
(Fourth Semester)

Branch – ELECTRONICS

8051 MICROCONTROLLER

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

1. Each one of these Peripherals has a Microcontroller inside it that performs only \_\_\_\_\_ task.  
(i) one (ii) multiple  
(iii) three (iv) four
2. The 8051 Provides a total of \_\_\_\_\_ distinct addressing modes.  
(i) 5 (ii) 6  
(iii) 4 (iv) 7
3. Dallas semiconductor also has an 8051 with \_\_\_\_\_ bytes of on-chip.  
(i) 64K (ii) 32K  
(iii) 16K (iv) 84K
4. The \_\_\_\_\_ directive is the most widely used data directive in assembler.  
(i) ORG (ii) EQC  
(iii) DB (iv) END
5. The other bit of TMOD register is the \_\_\_\_\_ bit.  
(i) TCON (ii) XTAL  
(iii) Gate (iv) drain
6. The TCON register is an \_\_\_\_\_ bit register.  
(i) 8 (ii) 4  
(iii) 6 (iv) 32
7. If data is transmitted one way at a time referred to as \_\_\_\_\_ duplex.  
(i) half (ii) full  
(iii) Simplex (iv) synchronomous
8. The line drivers used for \_\_\_\_\_ are called T1 and T2.  
(i) RXD (ii) TXD  
(iii) RS232 (iv) RS233
9. The \_\_\_\_\_ chips are either parallel or serial.  
(i) DAC (ii) ADC  
(iii) Serial ADC (iv) Parallel DAC
10. The RD pin also referred to as \_\_\_\_\_.  
(i) OT (ii) OC  
(iii) OE (iv) IN

Cont...

**SECTION - B (25 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a Explain the Overview of 8051 family.  
OR  
b Describe about an inside of 8051.
- 12 a Narrate the 8051 Program counter.  
OR  
b Sketch the Time delay generation in 8051.
- 13 a Describe the various functions of Single bit instructions  
OR  
b Explain the programming of 8051 timer 0 registers.
- 14 a Explain about the 8051 serial communication.  
OR  
b Summarize the 8051 interrupts priority with diagram.
- 15 a Explain the operation of interfacing a stepper motor.  
OR  
b Explain about the pin description of Keyboard interface.

**SECTION -C (40 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16 a Enumerate briefly about addressing modes in 8051.  
OR  
b Discuss about the 8051 instruction set with examples.
- 17 a Elucidate the functions of Loop and jump instructions with neat diagram.  
OR  
b Enumerate the CALL instructions in 8051 with examples.
- 18 a Discuss the I/O port pins and their functions.  
OR  
b Elucidate the I/O bit Manipulation programming.
- 19 a Explain the 8051 connection to RS232 with neat diagram.  
OR  
b Discuss about the 8051 Serial Communication Programming.
- 20 a Enumerate the operation of Interfacing an LCD to 8051.  
OR  
b Elucidate the 8051 interfacing to ADC with diagram.

Z-Z-Z

END