

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Fifth Semester)

Branch - ELECTRONICS

8051 MICROCONTROLLER

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	8051 microcontrollers are manufactured by which of the following companies? a) Atmel b) Philips c) Intel d) All of the mentioned	K1	CO2
	2	Which of the following is not an instruction of 8051 instructions? a) arithmetic instructions b) boolean instructions c) logical instructions d) none	K2	CO2
2	3	If we push data onto the stack then the stack pointer a) increases with every push b) decreases with every push c) increases & decreases with every push d) none of the mentioned	K1	CO1
	4	On power up, the 8051 uses which RAM locations for register R0- R7 a) 00-2F b) 00-07 c) 00-7F d) 00-0F	K2	CO1
3	5	To initialize any port as an output port what value is to be given to it? a) 0xFF b) 0x00 c) 0x01 d) A port is by default an output port	K1	CO1
	6	Which out of the four ports of 8051 needs a pull-up resistor for using it as an input or an output port? a) PORT 0 b) PORT 1 c) PORT 2 d) PORT 3	K2	CO1
4	7	Which devices are specifically being used for converting serial to parallel and from parallel to serial respectively? a) timers b) counters c) registers d) serial communication	K1	CO2
	8	What is the difference between UART and USART communication? a) they are the names of the same particular thing, just the difference of A and S is there in it b) one uses asynchronous means of communication and the other uses synchronous means of communication c) one uses asynchronous means of communication and the other uses asynchronous and synchronous means of communication d) one uses angular means of the communication and the other uses linear means of communication	K2	CO2
5	9	How many data lines are there in a 16*2 alphanumeric LCD? a) 16 b) 8 c) 1 d) 0	K1	CO1
	10	Which pin of the LCD is used for adjusting its contrast? a) pin no 1 b) pin no 2 c) pin no 3 d) pin no 4	K2	CO2

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	CO		
1	11.a.	Examine the overview of 8051 Family.	K4	CO2		
	(OR)					
	11.b.	Evaluate the Addressing modes.				
2	12.a.	Determine the functions of Data types and directives.	K5	CO1		
	(OR)					
	12.b.	Evaluate the function about program counter and ROM.				
3	13.a.	Explain the I/O ports of 8051 microcontroller.	K5	CO3		
	(OR)					
	13.b.	Discuss in detail about counter programming.				
4	14.a.	Evaluate the functions of 8051 Serial communication.	K5	CO4		
	(OR)					
	14.b.	Explain about 8051 interrupts.				
5	15.a.	Construct the DAC interfacing with 8051 microcontroller.	K6	CO5		
	(OR)					
	15.b.	Discuss about stepper motor, interfacing with neat diagram.				

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	CO
1	16	Explain in details about 8051 instruction set with example.	K5	CO1
2	17	Elaborate details about Time Delay generation with wave forms.	K6	CO2
3	18	With neat sketch explain about 8051 microcontroller pin descriptions.	K6	CO3
4	19	Discuss in details about interrupt priority in 8051.	K4	CO4
5	20	Explain the function 8051 ADC interfacing circuits with neat diagram.	K5	CO5