

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch - **ELECTRONICS**

DIGITAL ELECTRONICS

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	A three digit decimal number requires _____ for representation in the conventional BCD format. a) 3 bits b) 6 bits c) 12 bits d) 24 bits	K1	CO3
	2	Code is a symbolic representation of _____. a) Continuous b) Discrete c) Analog d) Both continuous and discrete	K2	CO1
2	3	The code where all successive numbers differ from their preceding number by single bit is _____. a) Alphanumeric Code b) BCD c) Excess 3 d) Gray	K1	CO3
	4	The NOR gate output will be high if the two inputs are _____. a) 00 b) 01 c) 10 d) 11	K2	CO2
3	5	What is a multiplexer? a) It is a type of decoder which decodes several inputs and gives one output b) A multiplexer is a device which converts many signals into one c) It takes one input and results into many output d) It is a type of encoder which decodes several inputs and gives one output	K1	CO3
	6	Which combinational circuit is renowned for selecting a single input from multiple inputs & directing the binary information to output line? a) Data Selector b) Data distributor c) Both data selector and data distributor d) DeMultiplexer	K2	CO3
4	7	UP-DOWN counter is a combination of _____. a) Latches b) Flip-flops c) UP counter d) Up counter & down counter	K1	CO2
	8	In 4-bit up-down counter, how many flip-flops are required? a) 2 b) 3 c) 4 d) 5	K2	CO3
5	9	How many control lines are present in analog to digital converter in addition to reference voltage? a) Three b) Two c) One d) None of the mentioned	K1	CO1
	10	Find out the integrating type analog to digital converter? a) Flash type converter b) Tracking converter c) Counter type converter d) Dual slope ADC	K2	CO1

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Determine the Binary number system.	K2	CO1
	(OR)			
	11.b	Explain the BCD Code.		
2	12.a.	Elaborate the Karnaugh's map.	K3	CO2
	(OR)			
	12.b.	Build a Boolean algebra with example.		
3	13.a.	Justify the Binary addition and Subtraction.	K3	CO3
	(OR)			
	13.b.	Evaluate the Encoder and Decoder.		
4	14.a.	Function the RS Flip flops.	K4	CO3
	(OR)			
	14.b.	Simplify the BCD Counter.		
5	15.a.	Explain about the Binary Ladder.	K4	CO1
	(OR)			
	15.b.	Analyze the function of Simultaneous Conversion.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Compare the Octal and Hexadecimal number systems.	K4	CO3
2	17	Formulate the De-Morgans Theorem.	K4	CO3
3	18	Compare the Half adder and Full adder with truth tables.	K4	CO3
4	19	Justify the synchronous and Asynchronous counters.	K4	CO3
5	20	Analyze Successive Approximation method A / D Converters.	K4	CO3

Z-Z-Z

END