

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2023
(First Semester)

Branch - CHEMISTRY

BASIC ELECTRONICS FOR CHEMISTS

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	When a pure semiconductor is heated, its resistance a) Goes up b) Goes down c) Remains the same d) Can't say	K1	CO1
	2	When a pentavalent impurity is added to a pure semiconductor, it becomes a) An insulator b) An intrinsic semiconductor c) p-type semiconductor d) n-type semiconductor	K2	CO2
2	3	Find solar cell is a a) P-type semiconductor b) N-type semiconductor c) Intrinsic semiconductor d) P-N Junction	K1	CO1
	4	Which of the following materials cannot be used as solar cells materials? a) Si b) GaAs c) CdS d) PbS	K2	CO2
3	5	Which of the following is an example of a digital Electronic? a) Computers b) Information appliances c) Digital cameras d) All of the mentioned	K1	CO1
	6	Which of the following is a type of digital logic circuit? a) Combinational logic circuits b) Sequential logic circuits c) Both Combinational & Sequential logic circuits d) None of the mentioned	K2	CO2
4	7	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

Cont...

	8	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	CO2
5	9	pH meters can be considered as voltage sources with which of the following internal resistances? a) Very low resistance b) Moderate resistance c) Very high resistance d) No resistance	K1	CO1
	10	Which of the following is not a failure in pH meters? a) Defective electrodes b) Defective input circuitry c) Defective electronic circuitry d) Defective calibration	K2	CO2

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.	Explain about Passive Components.	K3	CO2
		(OR)		
	11.b.	Describe short note on PN Junction diode.		
2	12.a.	Show the function LDR.	K4	CO3
		(OR)		
	12.b.	Explain about Solar cell .		
3	13.a.	Describe the Octal and hexadecimal.	K2	CO3
		(OR)		
	13.b.	Sketch the logic gates with truth table.		
4	14.a.	Sketch the D/A Converter .	K3	CO4
		(OR)		
	14.b.	Show the Decade counter.		
5	15.a.	Explain about Ammeter and Voltmeter.	K4	CO5
		(OR)		
	15.b.	Bring out on Spectrophotometer.		

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	Enumerate the feature of Transistor characteristics and Biasing.	K4	CO1
2	17	Identify Point out the Astable multivibrator with neat diagram.	K4	CO2
3	18	Compare with Half adder and Full adder with Truth tables.	K4	CO3
4	19	Summaries the Production of synchronous and Asynchronous counters.	K4	CO4
5	20	Classify and explain about Digital Thermometer.	K4	CO5

Z-Z-Z END