

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2026
(Sixth Semester)

Branch - **ELECTRONICS**

ARDUINO & IOT

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	What is IoT? (i) Network of computers only (ii) Network of physical devices connected to the internet (iii) Software application (iv) Database system	K1	CO1
	2	M2M communication means _____ (i) Man to Machine (ii) Manual to Manual (iii) Mobile to Mobile (iv) Machine to Machine communication	K2	CO1
2	3	IoT/M2M systems are mainly used for ____ (i) Machine communication (ii) Human communication (iii) Manual operations (iv) File storage	K1	CO2
	4	Device management at gateway is used for _____ (i) Ignoring devices (ii) Monitoring and controlling devices (iii) Storing files (iv) Printing data	K2	CO2
3	5	Analog sensors produce _____ (i) Digital signals (0 and 1) (ii) Binary data (iii) Continuous signals (iv) No output	K1	CO3
	6	Radio Frequency Identification (RFID) is used for _____ (i) Wireless identification and tracking (ii) Data processing (iii) Data storage only (iv) Manual communication	K2	CO3
4	7	Arduino uses which language for programming? (i) Python (ii) Java (iii) C/C++ (iv) HTML	K1	CO3
	8	Serial data communication means _____ (i) Sending multiple bits at once (ii) Sending one bit at a time (iii) Sending no data (iv) Sending analog signals	K2	CO3
5	9	Which component is used to isolate high voltage circuits from Arduino? (i) LED (ii) Capacitor (iii) Resistor (iv) Relay	K1	CO4
	10	Ultrasonic sensors measure distance using _____ (i) Light waves (ii) Infrared waves (iii) Sound waves (iv) Magnetic waves	K2	CO4

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.	Analyze how IoT contributes to the development of smart environments.	K2	CO1
		(OR)		
	11.b.	Define M2M communication and explain its working.		
2	12.a.	Differentiate between IoT and M2M systems with suitable examples.	K3	CO2
		(OR)		
	12.b.	Explain the role of device management gateway in IoT systems.		
3	13.a.	Describe the process of sensing real-world parameters using sensors.	K2	CO3
		(OR)		
	13.b.	Write a short note on WSN communication protocols.		
4	14.a.	Illustrate the process of compiling and uploading a program in Arduino.	K3	CO4
		(OR)		
	14.b.	Describe Arduino board interfaces and their functions.		
5	15.a.	Explain Arduino design methodology with a suitable case study.	K4	CO5
		(OR)		
	15.b.	Summarize power consumption in microcontrollers.		

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	Explain the IoT conceptual framework with a neat diagram and analyze the interaction between layers.	K3	CO1
2	17	Discuss wireless communication technologies in IoT and analyze their performance.	K2	CO2
3	18	Design a Web of Things application using RFID technology.	K5	CO3
4	19	Evaluate the applications and limitations of Set-80 microcomputers.	K4	CO4
5	20	Compare I2C and UART communication protocols and analyze their differences.	K3	CO5

Z-Z-Z

END