

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch – COMPUTER SCIENCE

INTERNET OF THINGS - 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 the primary focus of the Industrial Internet of Things (IIoT)? a) Exclusively human interactions b) Machine-to-machine communication c) Interactions between machines and humans d) Connections via social media	K1	CO1
	2	Interpret the three core principles that defines IoT. a) Identify, Communicate, Connect b) Detect, Analyze, Interact c) Identify, Adapt, Control d) Communicate, Actuate, Integrate	K2	
2	3	Which of the IoT protocols constitutes remote interruptions? a) MQTT b) XMPP c) TCP d) 6LoWPAN	K1	CO2
	4	Relate the application layer protocol developed by IETF for smart devices to connect to the internet. a) MQTT b) CoAP c) HTTP d) XMPP	K2	
3	5	What is the main function of Smart Grids? a) To generate electricity b) To integrate renewable energy sources c) To collect and analyze data for power management d) To distribute electricity without monitoring	K1	CO3
	6	Infer the type of sensors that smart shoes typically use to measure speeds and jumps. a) Heart rate monitors b) Embedded sensors c) Temperature sensors d) GPS sensors	K2	
4	7	Select the condition that causes the system to turn the light "on" in auto mode. a) When the user sets the light to "on" b) When the light level is low c) When the light level is high d) When the manual mode is activated	K1	CO4
	8	Explain how the State service interacts with the status database? a) Only updates the database b) Retrieves the current mode only c) Retrieves and updates the current light state d) No interaction with the database	K2	
5	9	How do you remove the first occurrence of a value from a list? a) delete() b) remove() c) discard() d) pop()	K1	CO5
	10	Illustrate the method you would use to format a datetime object into a string. a) format() b) stringify() c) to string() d) strftime()	K2	

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.	Inspect the key characteristics of IoT.	K4	CO1
	(OR)			
	11.b.	Categorize the various applications of IoT.		
2	12.a.	Examine the characteristics and architecture of XMPP.	K4	CO2
	(OR)			
	12.b.	Analyze the architectural properties and constraints of REST API.		
3	13.a.	Explain the contributions of smart lighting, smart appliances, intrusion detection systems, and smoke/gas detectors to effective home automation.	K5	CO3
	(OR)			
	13.b.	Assess the impact of smart payments and smart vending machines on inventory management in the retail sector.		
4	14.a.	Explain the Domain Model Specification with a neat diagram.	K5	CO4
	(OR)			
	14.b.	Interpret the operational View Specification with an example.		
5	15.a.	Build python code to demonstrate the various dictionary operations with an example.	K6	CO5
	(OR)			
	15.b.	Create and import a user defined module in python with an example.		

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	Examine the different technologies that are considered as the key contributors to the IoT.	K4	CO1
2	17	Explain about AMQP with an example.	K5	CO2
3	18	Analyze how fleet tracking and remote vehicle diagnostics enhance the optimization of route generation and scheduling in logistics operations.	K4	CO3
4	19	Interpret the roles and interactions of the Functional Groups in the Functional View of an IoT system with an example.	K5	CO4
5	20	Develop a Python code to implement various file handling operations with examples.	K6	CO5

Z-Z-Z

END