USN					



Internal Assessment Test 2 - Dec 2023

Sub:	Internet of Things and WSN	I			Sub Code:	18EC744	Branch	: ECE		
Date:	05/12/2023 Duration: 90 min's Max Marks: 50 Sem/Sec: VII/ A, B, C, D							OBE		BE
	Answer any FIVE FULL Questions						MARKS	CO	RBT	
1	Explain about cloud serv	vice and clou	d developmen	t model	s with exa	amples.		10	CO2	L2
	B B	Business Process Busine	Business Processes Business Processes Business Processes Cloud of Things Service A Service A Service D Service D	Orchestration Process Bu stration Eass proc The pr should	esses run rocess m	ining in paral latrix provid arallel and w	es the hich in			
	service initiates on rec					•	. Lacii			
		•	J r							
2	Explain Internet protoc	col version 4	l (IPv4) and I	P addre	ssing in I	оТ.		10	CO2	L2
			Internet Protocol	Internet P	rotocol					
			version 4 (IPv4)	version 6						
		Deployed Address Size	1981 32-bit number	1999 128-bit numb						
	,	Address Size		Hexadecimal						
		Address Format	Dotted Decimal Notation: 192.149.252.76	3FFE:F200:02 0123:4567:8	P01:ABCD					
	,	Prefix Notation	192.149.0.0/24	$3FFE:F200:02$ $2^{128} = -340,$						
	'	Number of Addresses	2 ³² = ~4,294,967,296	920,938,463, 607,431,768,	463,374,					
	Explain IoT cloud based Nimbits. Nimbits enables IoT on deploys an instance of Nimbits system data store, data collecter architecture is a cloud-based Google Acom.nimbits.server. system.ServerInfo of jafeatures: Edge computing locally the rules and pushes in Internet and an instance enabled.	an open so Server at th or and logge app Engine. va.lang.Obje on embedo nportant da	urce distribute device node er with access Nimbits serve	ted cloues. Nimber is a clear service aas serviult up oud rur	d. Nimbit orical data ass hierar vices offer of local appring whe	ts cloud PaaS fons as an M2 a. Nimbits rchy r the following pplications. I	2M ng t runs	10	CO1	L2

	It supports multiple programming languages, including Arduino, new Arduino library, push functions from Arduino cloud, JavaScript, HTML or the Nimbits.io Java library. Nimbits server functions as a backend platform. Nimbits data point can relay data between the software systems, or hardware devices such as Arduino, using the cloud as a backend.			
4	Explain 6LowPAN with neat diagram.	10	CO2	L2
	6LoWPAN Architecture			
	Laptop Laptop Laptop Internet IP-enabled devices Reduce Function Device Reduce Function Device (RFD) Server IP Computer IP-Computer IP-enabled devices IP-e			
5	Explain security requirements and threat analysis in detail.	10	CO2	L3
	Message privacy means that the message should not reach into the hands of the unrelated entities. When data or messages communicate from the things (device platforms), those are meant only for the applications or services and for targeted goals only. Privacy also means no interference or disturbance from other. Consider an example of messages from embedded devices in an automobile using the Internet to an automobile service centre.			
6	Explain five levels for software development for applications and services for IoT or M2M.	10	CO2	L3
	1: Physical/Data Link 2: loT or and Adaptation Layers Software Software Software Software Local Network and Gateway Software Local Network and Gateway Software Sof			Y 0
7	Explain layered attacker model with possible attacks and suggest the steps for	10	CO2	L3
	S: Applications/Services Vulnerabilities in application/service can be exploited through attacks such as SQL injection, where the developer has failed to ensure that user input is validated against a defined schema			