St. Philomena's College (Autonomous), Mysore			
PG Department of computer science			
Question Bank (Revised Curriculum 2020 onwards)			
Second year- Third Semester (2020 -22 Batch)			
Course Title (Paper Title): Internet of things **QP Code: 86321**			
Unit	**SI. No**	**Questions**	**Marks**
1	1.	Define IOT.	2
1	2.	What is web3.0 view of IOT?	2
1	3.	Mention any two protocols for SCADA and RFID each	2
1	4.	What are the 2 main issues in IOT standardization?	2
1	5.	What is unification of data standards?	2
1	6.	Define IoT. Give an example.	2
1	7.	Mention 'Things' that makes up IoT.	2
1	8.	What is 'Things' in Internet of Things?	2
1	9.	Who is father of IoT? What was first IoT machine?	2
1	10.	Enlist the capabilities that together help to bridge the gap between the virtual and physical world?	2
1	11.	Enlist the technologies that made IoT possible.	2
1	12.	Enlist few positive impact of IoT.	2
1	13.	What is ubiquitous iot ?	2
1	14.	What is the use of middleware in iot?	2
1	15.	Give the applications of iot in different domains.	2
1	16.	Define goal of IOT	2
1	17.	Draw simplified IOT architecture	2
1	18.	What are the layers of iot architecture?	2
1	19.	What is ubiquitous IOT?	2
1	20.	Define middleware of iot	2
1	21.	List the four pillars of IOT	2
1	22.	Define M2M	2
1	23.	Define web 3.0	2
1	24.	Abbreviate SCADA, M2M,WSN,RFID	2
1	25.	List the types of physical attacks	2
1	26.	List the types of application attacks	2
1	27.	List the type of network attacks	2
1	28.	Define iot ?	2

2	29.	Compare iot and wot.	2
2	30.	What is mobile cloud computing?	2
2	31.	Name few cloud providers.	2
2	32.	What is web portal? Name any two.	2
2	33.	What is cloud computing?	2
2	34.	Mention the categories of Sensors	2
2	35.	Define sensors ,Actuators and Smart Objects	2
2	36.	Differentiate between Sensor and Actuator.	2
2	37.	What are the components of cloud model given by NIST?	2
3	38.	What are the problematic aspects in cost benefit analysis and sharing?	2
3	39.	What are collective benefits?	2
3	40.	What are manufacturers and suppliers benefits?	2
3	41.	What are distributors and logistics benefits?	2
3	42.	What are retailer benefits?	2
3	43.	What are the benefits of RFID and IOT to society?	2
3	44.	What is business model?	2
3	45.	Mention the laws of information in business model innovation.	2
3	46.	What is small world phenomenon?	2
3	47.	Define the two categories of machine learning operation	2
3	48.	Define Neural Netwoks	2
3	49.	Differentiate between data in motion versus data in rest	2
4	50.	Mention IEC standards related to electric vehicle charging.	2
4	51.	Define agility and autonomy.	2
4	52.	Mention the advantages of smart grid.	2
4	53.	Mention the agility enablers.	2
4	54.	Define intelligent product.	2
4	55.	What is clustering?	2
4	56.	What are properties that a software entity should possess?	2
4	57.	Define intelligent agents and autonomous agents.	2
1	58.	Give introduction to IOT with its applications in real life.	5
1	59.	What are vertical IOT applications?	5

1	60.	What are the 4 pillars of IOT?	5
1	61.	What is communication middleware for IOT?	5
1	62.	Give brief overview of IoT	5
1	63.	Why we need of IoT Security	5
1	64.	Explain issues in IoT security	5
1	65.	What is requirement of IoT Protocol Standardization?	5
1	66.	Explain different Characteristics of IoT	5
1	67.	Write a note on Edge computing	5
1	68.	Write a note on Internet of Things.	5
1	69.	How IoT works? Explain.	5
1	70.	What technologies made IoT possible? Explain in detail.	5
1	71.	Differentiate between IoT and Digitization.	5
1	72.	Write a note on impact of IoT.	5
1	73.	How Iot works? Explain.	5
1	74.	Explain the application layer of oneM2M architecture.	5
2	75.	What is platform middleware for wot?	5
2	76.	Mention the building blocks in ETSI M2M framework.	5
2	77.	What are the 5 parts of ISA 95 standard for SCADA?	5
2	78.	Explain the unified multitier wot architecture.	5
2	79.	Explain WoT with example	5
2	80.	Explain Two Pillars of the Web.	5
3	81.	What is small world phenomenon?	5
3	82.	What is cost benefit sharing?	5
3	83.	Explain decentralized search.	5
3	84.	Write a short note on Business Model	5
3	85.	Who is the business model for? Describe it	5
4	86.	What are the key functionalities required to enable the interaction between intelligent items? Explain.	5
4	87.	What are the characteristics of autonomy? Explain.	5
4	88.	What are the important properties studied in wireless protocols?	5
4	89.	Write a note on data synchronization.	5

1	90.	Write a note on M2M middleware	7
1	91.	Write a note on SCADA middleware.	7
1	92.	Explain four Pillars of IoT and how they are inter-connected with each other?	7
1	93.	What are different challenges of IoT?	7
1	94.	Explain wireless sensor network?	7
1	95.	Explain different types of sensors used in IoT applications	7
1	96.	Briefly explain about M2M and Wsn protocols	7
2	97.	Explain IEEE802.15.4 Technology in detail.	7
2	98.	Give the key elements of ETSI m2m architecture	7
2	99.	Give the web services, service specification and ubiquitous sensor networks components given by SWE of OGC.	7
2	100.	What are different Platform Middleware for WoT?	7
2	101.	Explain the architecture of cloud of things	7
2	102.	How are iot and cloud computing related?	7
3	103.	What are the 4 different approaches towards systemization of RFID benefits?	7
3	104.	What are the requirements that constitute the specifics for the value proposition in IOT?	7
3	105.	Explain the economy with network effects.	7
3	106.	What are the network effects in integrated iot	7
3	107.	What is WoT Portals and Business Intelligence?	7
3	108.	Define Business model. What are the factors to make business model.	7
1	109.	What are the positive and negative impact of IoT?	8
1	110.	Explain impact of IoT in daily life.	8
1	111.	Explain IoT challenges interms of scale and security.	8
1	112.	What functionalities are provided by the upper layers of IoTWF architecture? Explain.	8
1	113.	What are the new requirements in IoT data management and compute stack? Explain.	8
2	114.	Explain Wireless Sensor Networks in Detail.	8
2	115.	Differentiate between Sturctured and Unstructured Data.	8

1	116.	Briefly explain about M2M and Wsn protocols	10
1	117.	Explain is DNA of IOT?	10
1	118.	Mention the applications of ubiquitous IOT applications	10
1	119.	Give the overview of middleware for IOT.	10
1	120.	Write a note on RFID and WSN middleware.	10
1	121.	Summarize the iot protocol standardization effort.	10
1	122.	What is Internet of Things (IoT). What are components required to design IoT Device and which device we called IoT device explain with example	10
1	123.	What are different components required for IoT device?	10
1	124.	What effect will the internet of things (IoT) have on our daily lives? Explain with any one example of smart device.	10
1	125.	What are different IoT protocols?	10
1	126.	Explain in details IoT Architecture layers.	10
1	127.	Explain layer 1 and layer 2 of IoT World Forum architecture.	10
1	128.	What are the different defining characteristics of fog computing? Explain in detail.	10
1	129.	Explain layer 1 and layer 2 of IoT World Forum architecture.	10
1	130.	What are the different defining characteristics of fog computing? Explain in detail.	10
2	131.	Explain the architecture standardization in iot.	10
2	132.	Write a note on cloud of things.	10
2	133.	Write a brief note on cloud middleware	10
2	134.	Difference between Web of Things versus Internet of Things	10
3	135.	What do you mean by cascading behavior in networks?	10
3	136.	How do you estimate the cost of RFID and IOT?	10
3	137.	Write a note on business model innovation?	10
3	138.	Explain the economy without network effects.	10
3	139.	Write a note on diffusion in networks.	10
3	140.	What is 6 degrees of separation?	10
3	141.	Explain information cascades	10
3	142.	Explain population model	10
4	143.	Explain data synchronization in detail.	10
4	144.	What are the 3 phases of charging electric vehicle?	10

4	145.	What effect will the internet of things (IoT) have in healthcare? Explain with any one example of smart device.	10
4	146.	Explain with example: Wearable - Smart Cities- Smart Home – Smart Healthcare Agriculture - Smart Grid.	10
4	147.	Explain IoT Application and Deployment Scenarios in different domains	10
4	148.	Explain what are the components and Communication media required for making smart building	10
4	149.	As technology gets smarter, will our abilities to think, feel and act be affected?	10
4	150.	What decisions can or cannot be delegated to smart things?	10
1	151	Why we need IoT? Explain with different application fields.	15
1	152	Explain the impact of IoT in our daily life.	15
1	153	Explain genesis of ioT in detail.	15
1	154	Explain IoT and Digitization in detail.	15
1	155	Differentiate IT and OT based on different criterias	15
1	156	Explain what challenges drives new IoT architecture design in detail.	15
1	157	Explain oneM2M architecture in detail.	15
1	158	With a neat diagram explain extended view of simplified IoT architecture.	15
1	159	Explain core IoT functional stack in detail.	15
1	160	Explain IoT data management and compute stack in detail.	15
1	161	With a neat diagram explain what is the hierarchy of edge, fog and cloud computing.	15
2	162	Define Sensor and explain its Categories in Detail.	15
2	163	Explain Communication Criteria of Connecting smart objects	15
3	164	With a neat diagram explain four types of data analysis result.	15
3	165	Explain Supervised Learning and Unsupervised Learning in machine learning in detail.	15
4	166	Write a note on Aurdino UNO.	15
4	167	Write a note on Aurdino Raspberrypi.	15

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Question Paper Pattern- Model Question Paper

Q.P Code:56301

10/02/2022

St. Philomena's College (Autonomous) Mysore
IV Semester MSc - Final Examination : August/September – 2021
Subject : COMPUTER SCIENCE
Title : INTERNET OF THINGS (HC)

me: 3 Hours **Maximum Marks: 70**

PART A

Answer any FIVE of the following questions: **(5x2=10)**

) Draw a simplified IOT architecture.
) List the types of application attacks.
) What is cloud computing?
) What are distributors and logistics benefits?
) What are collective benefits?
) What is clustering?
) Define agility and autonomy.

PART B

Answer one full question in each module: **(4x15=**

Module I

) a) What is Internet of Things (IoT). What are the components required to design IoT Devic and explain with an example. (15)

OR

) a) Explain different types of sensors used in IoT applications. (7)
b) What are the different IoT protocols?(8)

Module II

) a) What are the different Platform Middleware for WoT? (7)
b) Explain the architecture of cloud of things Write a brief note on cloud middleware.(8)

OR

) a) Mention the building blocks in ETSI M2M framework. (7)
b) What are the 5 parts of ISA 95 standard for SCADA?(8)

Module III

6) a) What are the netwrok effects in integrated IOT. (7)
   b) What is WoT? Explain Business Intelligence. (8)

OR

7) a) Explain infromation cascades. (7)
   b) Explain population model.(8)

Module IV

8) What effect will the internet of things (IoT) have in healthcare? Explain w example of smart device. (15)

OR

9) Write a short note on the following: (15)
   i) Health care
   ii) Smart Grid
   iii) Smart cities

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