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Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi

Approved by AICTE, New Delhi

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Academic year 2022-2023 (EVEN Sem)

COMMON TO
(BT, CSE, CV, ECE, EEE, ETE, ISE, ME)

Date	**31st July 2023**	**Maximum Marks**	**10 + 50**
Course Code	**22IM21T**	**Duration**	**20 + 90 Min**
Sem	**II Semester M.Tech**	**CIE – I**	
	RESEARCH METHODOLOGY		

Note:

1. Answer all the Questions.

Q. No.1	PART - A Questions	M	BT	CO
1.1	Identify the characteristics of a good hypothesis.	2	L2	CO1
1.2	List out different methods of experimentation, with an example for each of them.	2	L2	CO1
1.3	When are Quasi-Experimental designs best suited?	2	L2	CO4
1.4	Identify the steps in the process of a design for action research	2	L2	CO4
1.5	Differentiate between research methods and research methodology.	2	L2	CO1

Sl. No.	PART – B Questions	M	BT	CO
2 a.	How can the research problems be classified, broadly?	04	L2	CO1
b.	With the aid of an example, explain the different approaches of problem solving?	06	L2	CO1
3.	Analyze the 2^3 design: i. Quantify main effects and all interactions. ii. Quantify percentages of variation explained. iii. Sort the variables in the order of decreasing importance.	10	L3	CO2
4.	Bring out the design and study phenomenon in Quasi-Experimental designs with examples.	10	L2	CO4
5.	With the help of a flow chart, discuss how is the choice of experimental design for a given situation facilitated.	10	L2	CO4
6.	Describe the conditions and situations in which a Latin-Square design is used.	10	L2	CO4

	A_1		A_2	
	C_1	C_2	C_1	C_2
B_1	100	15	120	10
B_2	40	30	20	50

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Quiz	Max Marks	06	--	--	04	--	10	--	--	--	--
	Test	Max Marks	10	10	--	30	--	40	10	--	--	--

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$$r = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{n(\Sigma x^2) - (\Sigma x)^2 \cdot n(\Sigma y^2)(\Sigma y)^2}}$$

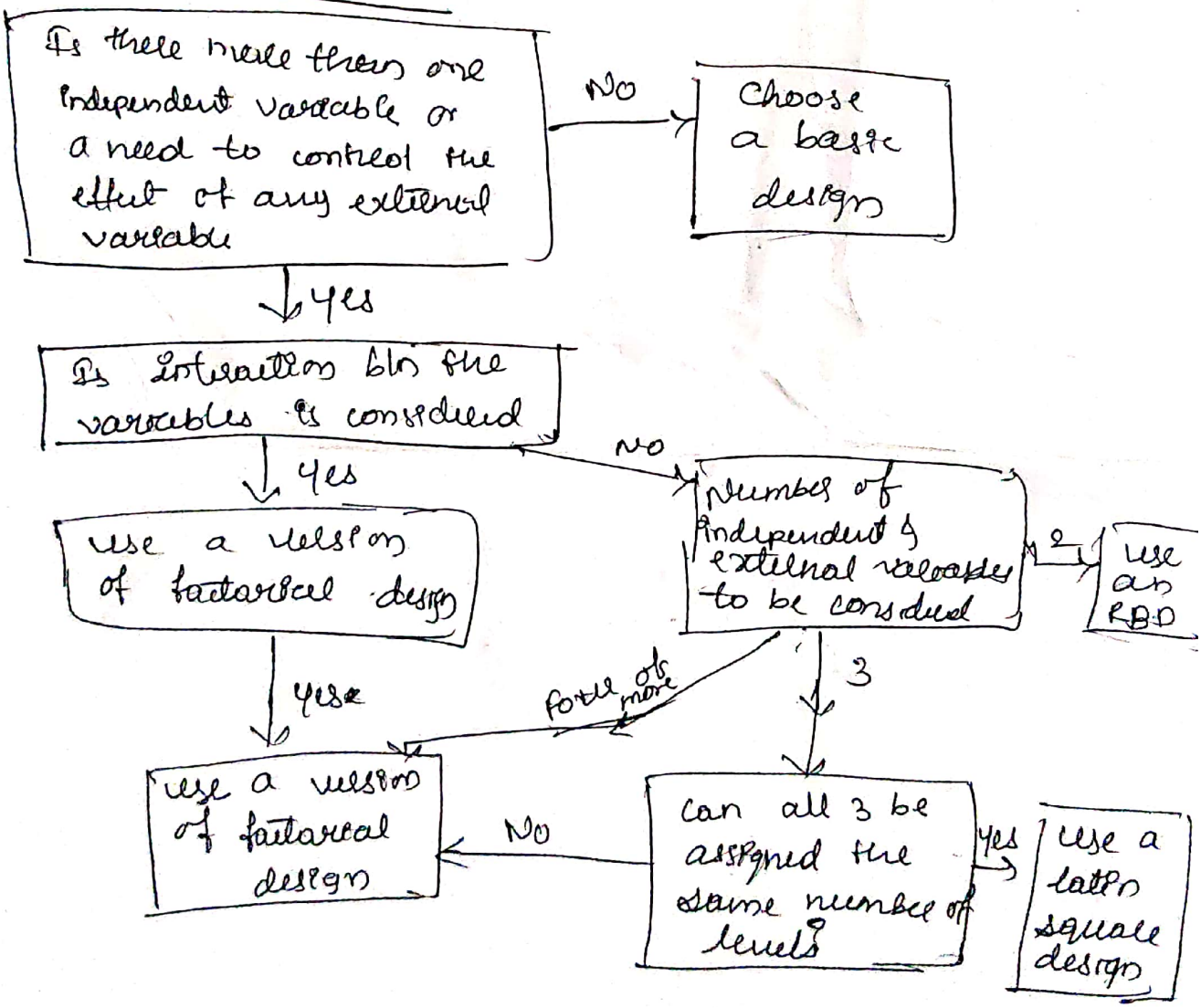
	C_1	C_2	C_3	C_4	Total	C_1^2	C_2^2	C_3^2	C_4^2
B_1	100	15	120	10	245	10,000	225	1400	100
B_2	40	30	20	50	140	1600	900	400	2500
	140	45	140	60	385	11,600	1125	1800	2600

$\Sigma x = 385$ $\qquad$ $\Sigma x^2 = 17125$

$CF = (\Sigma x)^2 / N$ $\qquad$ $N = 2 \times 4 = 8$ $\qquad$ $\Rightarrow \frac{(385)^2}{8} = 18,528$

Three

choice of Experiment design



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Academic year 2022-23 (EVEN Sem)

COMMON TO
(BT, CSE, CV, ECE, EEE, ETE, ISE, ME)

Date	30th August 2023	Maximum Marks	50
Course Code	22IM21T	Duration	90 Min
Sem	II Semester, M.Tech	CIE – II	

RESEARCH METHODOLOGY

Note: Answer all the Questions.

Sl. No.	Questions	M	BT	CO
1.	Bring out the salient features of Exploratory and Historical research.	10	L1	CO2
2.	How does Quantitative & Qualitative research methods differ? Briefly discuss qualitative research methods.	10	L2	CO2
3.	Write about the types of measurement scales and their relative comparison.	10	L2	CO3
4.	Discuss the need for sampling with the related terms like: Statistics, Parameters, Confidence & Significance levels, Sampling error and Sampling distribution.	10	L2	CO3
5 a.	List the types of Sampling methods and characteristics of a good sample design.	05	L1	CO3
5 b.	From a random sample of 36 service personnel, the mean age and standard deviation were found to be 40 & 4.5 years respectively. Construct a 95% confidence interval for the mean age of the service personnel. It is given that standard variate z for 95% confidence is 1.96.	05	L3	CO4

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
Marks Distribution	Test	Max Marks	--	20	25	05	--	--	--	--	--	--

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USN | 1 | R | V | 2 | 2 | S | C | S | 1 | T |

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Department of Computer Science and Engineering

Continuous Internal Evaluation (CIE)

CIE-III

Course:	Research Methodology	Course Code: 22IM21T	Semester : 2
Date : Sept 2023	Duration : 100 minutes	Quiz Max Marks: 10	Test Max Marks:50

Sl. No.	PART-A	Marks	* L1-L6	*CO
1.	Draw a flow chart for hypothesis testing procedure.	2	L2	CO1
2.	A worker demands an average time of 15 minutes for an operation. The industrial engineer feels the operation takes much less time than 15 minutes. He observes 16 randomly selected repetitions of the operation and calculates the average as 12.4 minutes with a standard deviation of 1.3 minutes. For a significance level of 0.01, how good is the case for the industrial engineer?	2	L2	CO1
3.	List the characteristics a hypothesis should possess?	2	L2	CO3
4.	Recall Type-I and Type-II error.	2	L2	CO3
5.	For testing a hypothesis at 5 per cent level of significance, the size of acceptance region on both sides of the mean will be _____and the size of rejection region on both the tails will be _____.	2	L2	CO1
	PART-B			
1a	A sample of 400 male students is found to have a mean height 67.47 inches. Can it be reasonably regarded as a sample from a large population with mean height 67.39 inches and standard deviation 1.30 inches? Test at 5% level of significance.	5	L3	CO1
(b)	Articulate the typical format of the dessertations.	5	L2	CO1
2(a)	Genetic theory states that children having one parent of blood type A and the other of blood type B will always be of one of three types, A, AB, B and that the proportion of three types will on an average be as 1 : 2 : 1. A report states that out of 300 children having one A parent and B parent, 30 per cent were found to be types A, 45 per cent per cent type AB and remainder type B. Test the hypothesis by $\chi 2$ test	7	L3	CO2
(b)	Identify the important characteristics of $\chi 2$ test.	3	L2	CO3
3.	Sales data of 10 months for a coffee house situated near a prime location of a city comprising the number of customers (in hundreds) and monthly sales (in Thousand Rupees) are given below:	10	L3	CO3

S. No.	No. of Customers(in hundreds)	Monthly Sales (in thousand Rs.)
1	6.0	01
2	6.1	06
3	6.2	08
4	6.3	10
5	6.5	11
6	7.1	20
7	7.6	21
8	7.8	22
9	8.0	23
10	8.1	25

Find the simple linear regression equation that fits the given data.

4.	Set up an analysis of variance table for the following per acre production data for three varieties of wheat, each grown on 4 plots and state if the variety differences are significant.	10	L3
5.	Explain the significance of a research report and narrate the various steps involved in writing such a report	10	L2

Plot of land	*Per acre production data*		
	Variety of wheat		
	A	*B*	*C*
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

*Course Outcome

CO1:Recognize the principles and concepts of research types, data types and analysis procedures.
CO2:Apply appropriate method for data collection and analyze the data using statistical principles.
CO3:Express research output in a structured report as per the technical and ethical standards.
CO4 : Develop a research design for the given engineering and management problem context.

Marks Distribution									
L1	L2	L3	L4	L5	L6	CO1	CO2	CO3	CO4
--	28	32	--	--	--	16	27	27	--

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Academic year 2022-2023 (EVEN Sem)

DEPARTMENT OF

COMPUTER SCIENCE &ENGINEERING

Date	1st Aug 2023	Maximum Marks	50+10
Course Code	22MCE22TL	Duration	120 Min
Sem	II Semester M.Tech CSE	CIE-1	
ADVANCES IN OPERATING SYSTEM			

Sl. No.	QUIZ-1	M	BT	CO
1.	How many processes are created if a process executes the following code? fork (); fork (); fork ();	2	L2	3
2.	Enumerate the benefits of multithreaded programming	2	L1	1
3.	Identify the low-level machinery and high-level intelligence needed by the operating system to effectively implement the virtualization of the CPU.	2	L2	2
4.	Differentiate between write invalidate and write update cache coherence protocols	2	L2	1
5.	Identify the shortcomings of Single Queue Multiprocessor Scheduling (SQMS)	2	L1	1

Sl. No.	Questions	M	BT	CO
1.	Illustrate the steps followed by operating system for the creation of new processes.	10	L3	2
2.a	Examine the design goals to be considered for building an operating system.	07	L2	1
b	Identify the significance of cache affinity in a multiprocessor cache scheduler	03	L3	1
3.	Write a multithreaded program to create threads to perform the following functions on an array simultaneously i) sort an array in ascending order ii) sort an array in descending iii) reverse elements of array	10	L3	3
4. a	Write a program to implement the following : A parent process to spawn N children, where N is read from user as a command line argument. Each child should print message "Hi from child PID", where PID is the process ID of the child created. The parent process should wait for all the child to exit first and then print message "Hi from parent PID".	6	L3	3
b	Without locks updating shared variables/data structures across multiple CPUs concurrently will not work as expected, even with the underlying Coherence protocols. Justify.	4	L4	2
5.a	Analyze different states a process can be in with a state transition diagram. Briefly describe scenarios for the following process state transitions • Blocked => ready	4	L1	2

	• Running => ready • Running => Blocked			
5.b	Illustrate cache coherence problem. Briefly explain the solution to address the issues related to cache coherence problem	6	L2	4

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Test	Max Marks	16	20	18	06	8	19	29	4	-	-

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Academic year 2022-2023 (EVEN Sem)

DEPARTMENT OF

COMPUTER SCIENCE &ENGINEERING

Date	30th Aug 2023	Maximum Marks	50
Course Code	18MCE31	Duration	90 Min
Sem	II Semester M.Tech CSE	CIE-2	
ADVANCES IN OPERATING SYSTEM			

Sl. No.	Questions	M	BT	CO
1. a	Illustrate Single Queue Multiprocessor Scheduling(SQMS) with an example and identify the benefits and limitations of SQMS approach	06	L2	1
1.b	Write the code to implement a lock using pthread library to provide mutual exclusion between processes/threads.	04	L3	4
2.a	Exemplify the use of condition variables with the routines that allows the threads to interact with one another using condition variables with suitable example.	06	L4	2
2.b	Summarize the in-kernel functionality of linux based Futex locks	04	L4	2
3.	Analyze and illustrate Multi Queue Multiprocessor Scheduling technique	10	L2	1
4. a	Write the pseudo code for the Load linked and Store Conditional instructions used in lock and unlock routines for MIPS architecture.	06	L3	4
4.b	Briefly discuss the Multiprocessor schedulers of Linux operating system	04	L1	1
5.a	Identify the basic criteria that are used for the evaluation of locks	04	L1	2
5.b	Write the code to build a simple spin lock using Test-And- Set and explain how two threads will achieve mutual exclusion using this code on a single CPU.	06	L3	3

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Test	Max Marks	20	14	06	10	8	16	16	10	-	-

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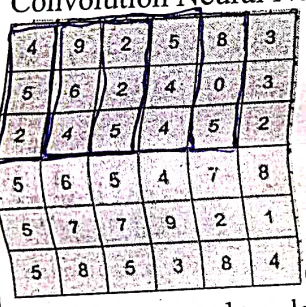
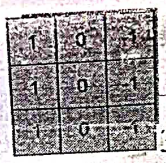
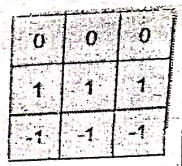
RV COLLEGE OF ENGINEERING®
Department of Computer Science and Engineering
CIE-I: Question Paper

Course : (Code)	DEEP LEARNING (22MCE23T)	Semester: II
Date: JULY 2023	Duration: 120 minutes	Staff: Prof MSS
Name :	USN :	Section : 2nd M.Tech CSE

AnswerAll Questions

Sl.no	Questions	Marks	L1-L6	CO
Part - A				
1.1	List two applications where deep learning can be used.	02	L2	CO2
1.2	In a simple MLP model with 8 neurons in the input layer, 5 neurons in the hidden layer and 1 neuron in the output layer. What is the size of the weight matrices between hidden output layer and input hidden layer?	02	L2	CO1
1.3	Pooling prevents the model from _____during training.	1	L1	CO1
1.4	The input image has been converted into a matrix of size 28 X 28 and a kernel/filter of size 7 X 7 with a stride of 1. What will be the size of the convoluted matrix?	02	L3	CO2
1.5	What is data annotation and data augmentation, why they are used?	02	L2	CO1
1.6	The number of nodes in the input layer is 10 and the hidden layer is 5. The maximum number of connections from the input layer to the hidden layer are _____.	01	L3	CO2
Part - B				
2	The network below is feed forward, the weights are as given here w13 = -4, w23 = 2 , w14 = 2 ,w24 = -1 , w35 = 1 , w45 = -1 , w36 = -1 , w46 = 1. Each of the nodes 3, 4, 5 and 6 uses the following activation function: $\varphi(v) = \begin{cases} 1 & \text{if } v \geq 0 \\ 0 & \text{otherwise} \end{cases}$ where v denotes the weighted sum of a node. Each of the input nodes (1 and 2) can only receive binary values (either 0 or 1). Calculate the output of the neural network (y5 and y6) for each of the input patterns (record all the calculations)	4x2 +2	L3	CO2

Pattern:	P_1	P_2	P_3	P_4
Node 1:	0	1	0	1
Node 2:	0	0	1	1

3	a. Suppose a company decides to deploy a new system for assessing performance of its employees. The new system is using a feed-forward neural network with a supervised learning algorithm. Suggest what should the company have before the system can be used? Discuss problems associated with this requirement.(Make a note on assumptions you make). b. With relevant equations analyze the following Activation functions.- Maxout unit, Logistic Sigmoid, Hyperbolic Tangent, Leaky ReLU, Parametric ReLU	03 07	L4	CO3
4	a. Algorithmically describe the forward and backward propagation which has supervised loss L (y^,y) associated with input x and the output of neural network y^. b. For the graph z=f(f(f(w))). Illustrate the computational graph with symbolic representation of derivates during back propagation.	05 + 05	L2	CO2
5	a. Discuss the various augmentation techniques used for text, image and audio data sets. b. The model needs to more generalized so that it shows better performance. What are the ways for doing this.	4+1 +1 4	L2	CO1
6	Convolution Neural Network is applied for the input frame:  6x6, filters  3x3 and  3x3. Discuss and explain the output for two cases when the stride is 1 and stride is 2.	10	L4	CO 4

COURSE OUTCOMES:

CO1.	Exploring the concepts of neural network, its applications and various learning models
CO2.	Apply the knowledge of neural networks in various deep learning architecture (Convnet, Recurrent and Nets and Auto-encoder models)
CO3.	Analyse different deep Network Architectures, learning tasks for various applications
CO4.	Evaluate and compare the solutions by various deep learning approaches for a given problem

	L1	L2	L3	L4	L5	L6	CO1	CO2	CO3	CO4
Marks	8	16	16	10	-	-	14	26		10

RV COLLEGE OF ENGINEERING®
Department of Computer Science and Engineering
CIE-II Question Paper

Course : (Code)	DEEP LEARNING (22MCE23T)		Semester: II
Date: August 2023	Duration: 120 minutes		Staff: Prof MSS
Name :	USN :	Section :	2nd M.Tech CSE

Answer All Questions

Sl.no	Questions	Marks	L1-L6	CO
1	a. ~~What~~ I Exemplify Primary Visual Cortex. How is CNN related to this.?	5	L2	CO2
	b. With examples explain different formats of data in convolution networks. (C and N caps)	5	L3	CO3
2	a. Consider an encoder-decoder model for machine translation. Using a neural network, draw a simple, depth 1 recurrent network for language translation. Show sample input($x_1, x_2, ...x_n$) and output ($y_1, y_2,...y_m$) words. (caps – NN, R)	5	L4	CO3.
	b. Combine an RNN that moves forward through time beginning from the start of the sequence with another RNN that moves backward through time beginning from the end of the sequence. Explain with a diagram.	5	L3	CO4
3	a. In the LSTM model, explain how the cell state is updated from C_{i-1} to C_i using the previous state h_{i-1} and current input x_i.	05	L3	CO3
	b. With a diagram explain what is LSTM-forget gate and LSTM-input gate.	05	L4	CO4
4	Exemplify under complete autoencoders, sparse autoencoder and stochastic encode in detail(Layer, Size , depth and basic concepts with equations)	10	L4	CO3
5	Recurrent Neural Networks (RNN) are very effective for Natural Language Processing and other sequence operations as they have storage or memory. They can read inputs x(t) one at a time, and remember some information/context through the hidden layer activations that get passed from one time-step to the next. Develop a basic RNN model required for this application and identify the hidden layers, activation function etc. and explain the same with architecture diagram.	10	L4	CO4

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	RV College of Engineering® M Tech (CSE &CNE) Department of Computer Science and Engineering CIE - 1: Test Paper		
Course & Code	Internet of Things and Edge Computing (22MCN2C4T)		Semester: II
Date :July 2023	Duration:90 minutes	Max. Marks: 50 Marks	Staff : ARA
USN :	Name :		

NOTE: *Answer all the questions*

Sl.no.	Questions	Marks	* BT	*CO
1.a	Give proper definitions of Internet of Things (IOT), the definitions should be inline with • Turning things into computers • Things get greater value because of IOT	5	L2	CO1
1.b	Give any two cases of IOT	5	L2	CO1
2.a	Apply the concepts you learned in design of IOT systems and for the given scenario (Scenario I) give **General Framework for IOT.**	10	L4	CO1
3.a	Apply the concepts you learned in design of IOT systems and for the given scenario (Scenario I) give **Oracle Conceptual Framework for IOT.**	10	L4	CO2
4.a	Apply the concepts you learned in design of IOT systems and for the given scenario (Scenario I) give **CISCO Architectural Framework for IOT.**	10	L4	CO3
5.a	Explain major components of IOT System.	5	L2	CO1
5.b	Illustrate the major difference between IOT and M2M (Machine to Machine Communications)	5	L2	CO1

COURSE OUTCOMES:

CO1:	Apply and Explore Internet of Things (IoT) with New Computing Paradigms like 5G, Fog, Edge, and Clouds
CO2:	Analyze Prototyping and demonstrate resource management concepts in New Computing Paradigms
CO3:	Implement optimal technology of Internet of Things and edge computing for different applications
CO4:	Design Web Connectivity in IoT and Orchestration of Network Slices in 5G, Fog, Edge, and Cloud

	L1	L2	L3	L4	L5	L6	CO1	CO2	CO3	CO4
Marks	-	20	-	30	-	-	30	10	10	-

Scenario I

IoT smart metering solutions and smart meter data visualization

IoT and smart meters

Traditionally being a part of the electrical grid infrastructure, a smart meter is an electronic device that allows for remote monitoring and recording of energy consumption. However, in the age of IoT and IoT platforms, standalone smart meters give way to more advanced and multi-purpose smart metering solutions. These solutions offer a broader range of remote monitoring and alerting capabilities as well as provide powerful data analytics tools to help companies and individual users optimize their **energy, water, gas, or fuel consumption**.

A typical challenge for companies implementing smart meters is how to integrate them within their infrastructure and set up custom-tailored smart metering use cases. The best way to achieve these goals is by using an IoT platform that offers out-of-the-box solutions and templates for smart metering. One of the strongest advantages of an enterprise-grade IoT platform is its data processing capabilities. Not only will you be able to collect data from your diverse smart meters in a centralized way, but also set up custom visualization dashboards, configure user alerts and notifications, and feed the collected data into other applications or data stores.

Another critical advantage is the cost of smart metering implementation. Using an IoT platform allows you to have all the necessary functionality right away and focus on building particular smart metering use cases instead, saving time and avoiding the risks associated with in-house IoT development.

Try designing the solutions while considering the following use cases (but not restricted these, you can make use of any expertise and/or imagination about the use cases) and answer the questions 2, 3 and 4.

- Reliable and fault tolerant data collection for your smart water meters, energy monitors, smart energy meters, etc.;
- Powerful rule engine to process collected data and produce alarms and valuable insights;
- Advanced, customizable data visualization for real-time and historical smart metering monitoring;
- Alarm widgets to instantly notify users and / or operators about any critical events or unusual consumption levels;
- Device management to allow you to organize your endpoints in groups by specific attributes;
- Customizable end-user dashboards (featuring drill-down capabilities) to analyze and share the results of smart metering monitoring;

RV College of Engineering®

M Tech (CSE &CNE)

Department of Computer Science and Engineering

CIE - II: Test Paper

Course & Code	Internet of Things and Edge Computing (22MCN2C4T)		Semester: II
Date :July 2023	Duration:90 minutes	Max. Marks: 50 Marks	Staff : ARA
USN : 1RV22SCS14	Name :		

NOTE: *Answer all the questions*

Sl.no.	Questions	Marks	* BT	*CO
1.a	Differentiate between Universal Resource Identifier *(URI)* with Universal Resource Locator *(URL).*	5	L2	CO1
1.b	With a proper illustration explain the *Constrained environment* of IOT.	5	L2	CO1
2.a	With a neat diagram illustrate the **Constrained RESTful Environment (CoRE)** for the web communication in IOT setup that essential involves both the constrained and un constrained environment.	10	L4	CO2
3.a	Illustrate **Constrained Application Protocol (CoAP)** which is for CoRE using **ROLL (Routing Over a network of Low power and (data) Loss)** data network with a neat diagram and Also explain how it different from HTTP over the TCP.	10	L4	CO2
4.a	With a neat diagram explain the Message Queuing Telemetry Transport (MQTT) is an open-source protocol for machine-to- machine (M2M)/IoT connectivity. Further illustrate the working of MQTT Broker (also referred simply as MQ).	10	L4	CO3
5.a	Referring to the figure in Fig-Q5, identify – Virtual Objects (VO), Composite Virtual Objects (CVO) and the Services. Also with a neat diagram explain the *FP7 iCore Access Framework (iCore Contribution)* identifying different Cognitive Management Levels.	5	L2	CO4
5.b	Explain the notion of CapBAC (Capability Based Access Control) with an example that is inline with the **IoT@Work Capability Based Access Control System.**	5	L2	CO4

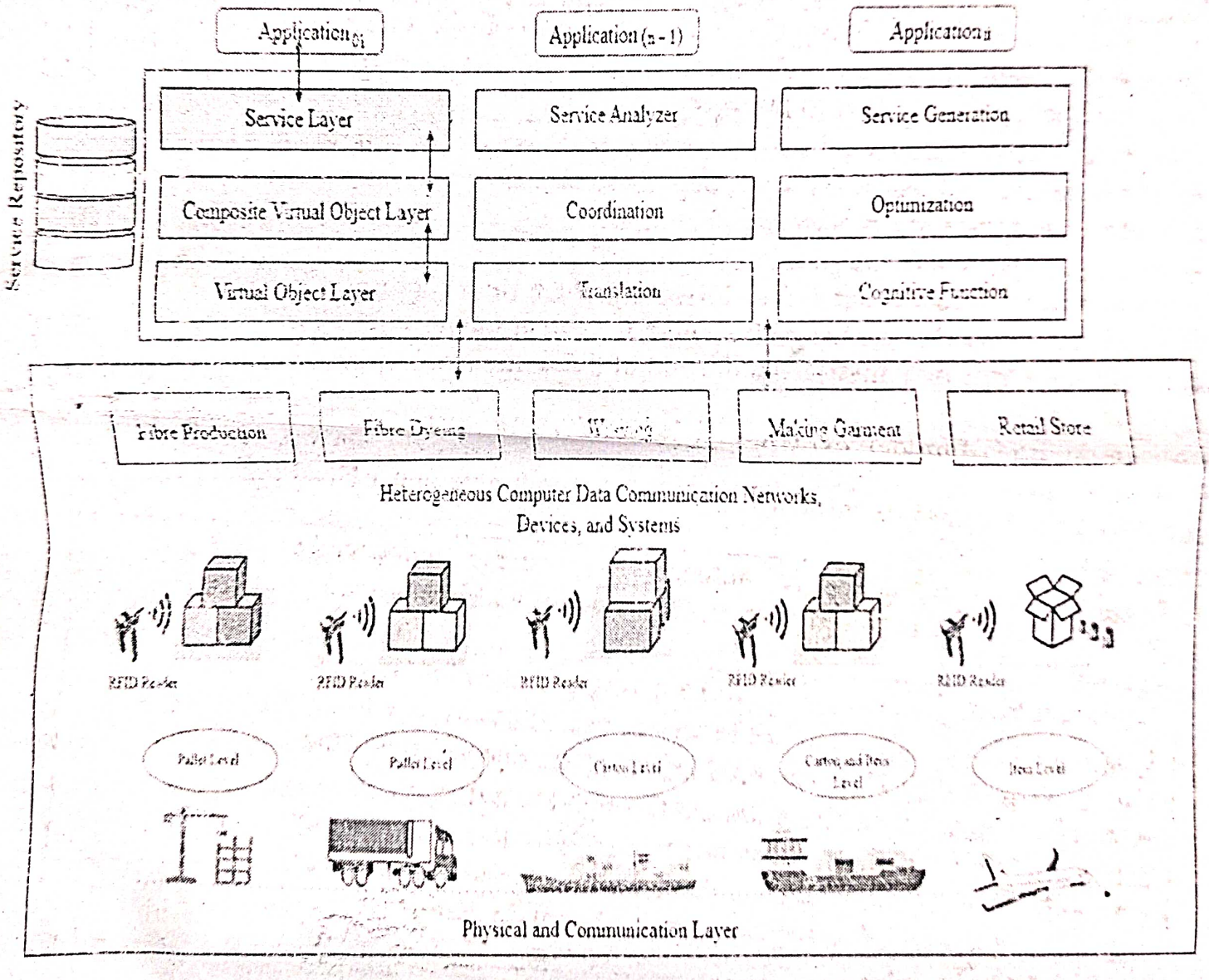

Fig 01 : IOT Setup for a Textile Industry.

to Visvesvaraya Technological University, Belagavi | By NAAC, Bengaluru And NBA, New Delhi

CIE I M. Tech - Global Elective (2022-23)

DEPARTMENT OF BIOTECHNOLOGY

Date	02.08.2023	Maximum Marks	50
Course Code	**22BT2D02T**	Duration	90 Mins
Sem	II Semester	**CIE-I**	

Course: HEALTH INFORMATICS

Note: Answer all the questions

Sl. No.	Answer all the questions	M	BT	CO
1.	Elaborate on Healthcare Informatics and it's data types	10	1	1
2.	Explain the application of data analytics for health care and group them the categories of health informatics data?	10	2	1
3.	Design a protocol for Data Analytics for Pervasive Health.	10	4	3
4.	Elucidate on the applications and practical systems for healthcare	10	3	2
5.	Illustrate on the tools and attributes used in diagnoses.	10	4	2

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BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6

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CIE II M. Tech - Global Elective (2022-23)

DEPARTMENT OF BIOTECHNOLOGY

Date	31.08.2023	Maximum Marks	50
Course Code	22BT2D02T	Duration	90 Mins
Sem	II Semester	CIE-II	
Course: HEALTH INFORMATICS			

Sl. No.	Answer all the questions	M	BT	CO
1.	Studies examine the relationship between dose of Lisinopril and blood pressure. The following data represents the dose and BP. Detect the effectiveness of the Lisinopril dosage.	10	3	2
2.	Elucidate on the steps to select and implementing EHR.	10	2	3
3.	Discuss the challenges that can be observed in EHR	10	3	4
4.	Design EHR to treat common diseases like arthritis and heart diseases.	10	5	4
5.	Design a medical code, which can be used in multiple applications.	10	5	4

Lisonopril dosage (mg)	BP (Systolic value)
1.0	160
2.0	158
3.0	135
4.0	150
5.0	142
6.0	136
7.0	139
7.5	135
8.0	128
8.5	130
8.0	119
9.5	122
10.0	120

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BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6

College of Engineering

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CIE I M. Tech - Global Elective (2022-23)

DEPARTMENT OF BIOTECHNOLOGY

Date	02.08.2023	Maximum Marks	50
Course Code	**22BT2D02T**	Duration	90 Mins
Sem	II Semester	**CIE-I**	
Course: HEALTH INFORMATICS			

Note: Answer all the questions

Sl. No.	Answer all the questions	M	BT	CO
1.	Elaborate on Healthcare Informatics and it's data types	10	1	1
2.	Explain the application of data analytics for health care and group them the categories of health informatics data?	10	2	1
3.	Design a protocol for Data Analytics for Pervasive Health.	10	4	3
4.	Elucidate on the applications and practical systems for healthcare	10	3	2
5.	Illustrate on the tools and attributes used in diagnoses.	10	4	2

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BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6

College of Engineering

CIE II M. Tech - Global Elective (2022-23)

DEPARTMENT OF BIOTECHNOLOGY

Date	31.08.2023	Maximum Marks	50
Course Code	22BT2D02T	Duration	90 Mins
Sem	II Semester	CIE-II	
Course: HEALTH INFORMATICS			

Sl. No.	Answer all the questions	M	BT	CO
1.	Studies examine the relationship between dose of Lisinopril and blood pressure. The following data represents the dose and BP. Detect the effectiveness of the Lisinopril dosage.	10	3	2
2.	Elucidate on the steps to select and implementing EHR.	10	2	3
3.	Discuss the challenges that can be observed in EHR	10	3	4
4.	Design EHR to treat common diseases like arthritis and heart diseases.	10	5	4
5.	Design a medical code, which can be used in multiple applications.	10	5	4

Lisonopril dosage (mg)	BP (Systolic value)
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BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6

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Academic year 2023-2024 (EVENSem)

Board of Humanities and Social Sciences

Date	22.08.2024	**Maximum Marks**	**10 + 50**
Course Code	22HSS25T	**Duration**	**30 + 90 Min**
Sem	II Sem /M.Tech - Common to all the programs	**CIE – I**	
PROFESSIONAL SKILL DEVELOPMENT – I - CIE - I			

Note:

1. Answer all the Questions.

Part – A – Quiz Max. Marks – 10 Marks

Sl. No.	Questions	M	BT	CO
1	Fill in the blanks with suitable word If you _____practice, you will not learn.	1	3	2
2	Fill in the blanks with suitable word He looks as if he_____ something.	1	3	2
3	Fill in the blanks with suitable words _____you are caught, what will happen to your parents?	1	3	2
4	Statements: All the actors are girls. All the girls are beautiful. Conclusions: 1.All the actors are beautiful. 2.Some girls are actors. Which conclusion follows?	1	3	2
5	Find the sum of even numbers from 20 till 50?	1	3	2
6	How many 3 digit numbers are there divisible by 5?	1	3	2
7	Find the sum of natural numbers from 30 till 60?	1	3	2
8	Find the sum of natural numbers from 40 till 80?	1	3	2
9	Statement: "You are hereby appointed as a programmer with a probation period of one year and your performance will be reviewed at the end of the period for confirmation." - A line in an appointment letter. Assumptions: 1.The performance of an individual generally is not known at the time of appointment offer. 2. Generally an individual tries to prove his worth in the probation period. Which assumption implicit?	1	3	2
10	How many 7 digit numbers are there divisible by 5? a. 1800000 b. 180000 c. 1480000 d. None	1	3	2

Part – B Max.Marks – 50

Sl. No.	Questions	M	BT	CO
Q.1a.	How to sit in a chair while giving interview? Explain it with at least two points	2	1	4
1b.	The teacher is testing a student's proficiency in arithmetic and poses the following question. 1/3 of a number is 3 more than 1/6	4	3	2

Academic year 2023-2024 (EVENSem)

	of the same number. What is the number? Can you help the student find the answer? Explain it properly.			
1c.	Tell me about something which you did or failed to do and now feeling ashamed of that?	4	4	1
2 a.	What are your hobbies?	2	4	3
2 b.	A 3- digit number consists of 9,5 and one more number. When these digits are reversed and then subtracted from original number the answer yielded will be consisting of the same digits arranged yet in a different order. What is the other digit?	4	3	2
2 c.	How to tailor your resume? Explain it nicely.	4	4	1
3 a.	What makes you angry?	2	4	3
3 b.	Which is more important - thinking of new ideas or remembering points already being raised in the group discussion?	4	4	3
3 c.	How many 4 digit numbers are there divisible by 11?Explain it properly. 818	4	3	2
4 a.	How you should maintain your eye contact with the interviewer in an interview?	2	4	4
4 b.	Who is your idol person and why?	4	4	3
4 c.	Who should we talk to - the recruitment panel or the team in the GD? Explain it thoroughly.	4	4	3
5 a.	What mistakes should we try to avoid while writing resume?	2	4	1
5 b.	What is the purpose of a resume? Explain it nicely.	4	4	1
5c.	Where do you see yourself in the next 5 years?	4	4	1

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	Quiz	Max Marks	5	13	5	2	1		13	11		
	Test		18	22	16	4	2		22	36		

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Academic year 2023-2024 (EVENSem)

Board of Humanities and Social Sciences

Date	09.09.2024	**Maximum Marks**	**10 + 50**
Course Code	22HSS25T	**Duration**	**30 + 90 Min**
Sem	II Sem /M.Tech - Common to all the programs	**CIE – II**	
PROFESSIONAL SKILL DEVELOPMENT – I - CIE - II			

Note:

1. Answer all the Questions.

Part – A – Quiz Max. Marks – 10 Marks

Sl. No.	Questions	M	BT	CO
1	Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?	1	3	2
2	If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?	1	3	2
3	Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?	1	3	2
4	If South-East becomes North, North-East becomes West and so on. What will West become?	1	3	2
5	Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?	1	3	2
6	Find the value of x from a number 419x3 if the whole number is divisible by 9?	1	3	2
7	What is the sum of odd numbers from 30 to 60?	1	3	2
8	Fill in the blanks Earth rotates around _____ sun.	1	3	2
9	Fill in the blanks He is the best _____ all.	1	3	2
10	A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?	1	3	2

Part – B Max.Marks – 50

Sl. No.	Questions	M	BT	CO
Q.1a.	What is leadership?	2	4	3
1b.	How do you motivate a team?	4	4	3
1c.	If A + B means A is the mother of B; A - B means A is the brother B; A % B means A is the father of B and A x B means A is the sister of B, which of the following shows that P is the maternal uncle of Q? Explain thoroughly	4	3	2
2 a.	What is effective communication for an interview?	2	4	4
2 b.	Five girls are sitting on a bench to be photographed. Seema is to the left of Rani and to the right of Bindu. Mary is to the right of Rani. Reeta is between Rani and Mary.	4	3	2
2 c.	If A + B means A is the brother of B; A - B means A is the sister	4	3	2

	of B and A x B means A is the father of B. Which of the following means that C is the son of M? Explain it thoroughly.			
3 a.	What is an interview?	2	4	4
3 b.	There are 8 houses in a line and in each house only one boy lives with the conditions as given below: 1. A.Jack is not the neighbour Siman. 2. B.Harry is just next to the left of Larry. 3. C.There is at least one to the left of Larry. 4. D.Paul lives in one of the two houses in the middle. 5. E. Mike lives in between Paul and Larry. If at least one lives to the right of Robert and Harry is not between Taud and Larry, then which one of the following statement is not correct ? Who is sitting in between Paul and Jack? Explain it thoroughly.	4	3	2
3 c.	If A + B means A is the brother of B; A x B means A is the son of B; and A % B means B is the daughter of A then which of the following means M is the maternal uncle of N? Explain it thoroughly.	4	3	2
4 a.	What is your short term goal?	2	4	1
4 b.	How do you set priorities as a leader?	4	4	3
4 c.	If A + B means A is the father of B; A - B means A is the brother B; A % B means A is the wife of B and A x B means A is the mother of B, which of the following shows that M is the maternal grandmother of T?	4	3	2
5 a.	How you should maintain your eye contact with the panel members in GD?	2	1	4
5 b.	Tell me about a time you had a significant impact on a team. Explain thoroughly.	4	4	1
5c.	If A + B means A is the sister of B; A x B means A is the wife of B, A % B means A is the father of B and A - B means A is the brother of B. Which of the following means T is the daughter of P? Explain it thoroughly.	4	3	2

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
Marks Distribution	Quiz	Max Marks	2	17	3	3	1		17	16		
	Test		6	38	10	6	2		38	20		

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