REVA UNIVERSITY

School of Computing and Information Technology
7th Semester B.TECH– Internal Assessment 1
Machine Learning and Applications
BTCS15F7100

Max Marks: 30 (to be scaled down to 15 for submission) **Duration: 90 minutes**

Note: Answer one full question from each section

Section- 1 (Unit-1)

		Marks	CO
1.a	Identify three features with respect to well posed learning problem for the following. 1. A driving learning problem by a robot 2. Product recommendation by amazon 3. Handwritten character recognition learning problem	10 marks	CO1
1.b	Deep blue(by IBM) was a machine that won check match against the world champion Gary Kasperov in game one of 6 game match, explain the the steps involved in designing a learning system such as deep blue.	10 marks	

OR

2.a	Searching from the most specific to progressively more general hypotheses is the strategy of FIND –S algorithm. i) Write the steps of FIND-S Algorithm. ii) Apply FIND-S on the below given dataset.	10 marks	CO1

Origin	Manufacturer	Color	Decade	Type	Example Type
China	Lenovo	Gold	2008	Smart Phone	Positive
China	Oppo	Red	2018	Smart Phone	Positive
Finland	Nokia	Red	2008	Basic Phone	Negative
China	One plus	Red	2018	Smart Phone	Positive
China	Vivo	White	2018	Smart Phone	Positive

2b. Explain the below
i) Apply the association rule for market basket analysis to identify the potential customers for Amazon.
ii) For the example of Bank providing loans to customers, Explain classification.
iii) Considering the example of document clustering, the aim is to group similar documents, Explain clustering. — 10 marks

Section-2 (Unit-2)

3.	The complexity of learning algorithms, depends on the number of input dimensions, d. Discuss the two types of dimensionality reduction techniques. Justify the objective of behind the concept of dimensionality reduction.	10 marks	CO2

OR

4.	In subset selection, We are interested in finding the best subset of the set of features. The best subset contains the least number of dimension that most contribute to accuracy. Explain the two approaches in selecting the subset.	10 marks	CO2

CO1: Explain the basic blocks of machine learning and the techniques involved
CO2: Comprehend the concepts of dimensionality reduction, and its various techniques

School of Computing and Information Technology
Semester B.TECH– Internal Assessment 1
Big Data and Hadoop
(BTCS15F7310)

Max Marks: 30 (to be scaled down to 15 for submission) **Duration: 90 minutes**

Note: Answer one full question from each section

		Marks	CO
	Section- 1 (Unit-1)		
1.	The basic definition of Big Data is comprised with 3 Vs. Illustrate with the help of suitable example the 3 or 4 or any number of Vs in association with the definition of Big Data. Compile the various definitions of Big Data and propose the definition of big data from your own perspective.	10	CO-1
2.	Classification is essential for the study of any subject. Big Data is widely classified into three main types of digital data. With the help of examples for each, outline these three types of digital data that makes it as Big Data.	10	CO-1
	OR		
3.	The domain of Big Data storage comes with variety of challenges in any current data processing application. Earlier to Hadoop, Traditional RDBS was the solution to store data in the form of Data Marts or Data Warehouses. Outline how Hadoop is different in managing Big/Small Data in comparison with the Traditional RDBMS.	10	CO-1
4.	Any application of Big Data when using Hadoop is believed to have Data Ingestion performed through several types of data being unstructured and structured. Outline the various input file formats that Hadoop supports for any Big Data application.	10	CO-1
	Section-2 (Unit 3)		
5.	The cluster of nodes in the infrastructure of Hadoop comprise many important nodes such as Name Node, Backup Node (Secondary Name Node) and Check Point Name Node. With the help of a neat Block Diagram, compare and contrast the functionalities of these important nodes in a Hadoop System.	10	CO-2
	OR		
6.	Assume that a customer gets a call on his smartphone regarding an offer of a Personal Loan. He also received an SMS, Facebook Notification, WhatsApp message regarding the same. Then, he compiles an email and sends it to the concerned Branch Manager to avail loan. Considering the above Scenario, Outline i. The various sources of Big Data generation / creation. ii. Segregate this data as Structured and Unstructured data. iii. Compare and contrast the two types of data that you have enlisted above. iv. Propose an idea that needs to be implemented by a Branch Manager to decide whether a customer applying for a loan is eligible for a loan.	10	CO-2

CO-1: Explain Big Data concepts and managing big data;
CO- 2: Generalize Hadoop Architecture;
CO- 3: Develop Complex MapReduce programs;
CO- 4: Apply data analytics using Pig, Hive.

School of Electrical and Electronics Engineering

7th Semester B.TECH – Internal Assessment – 1

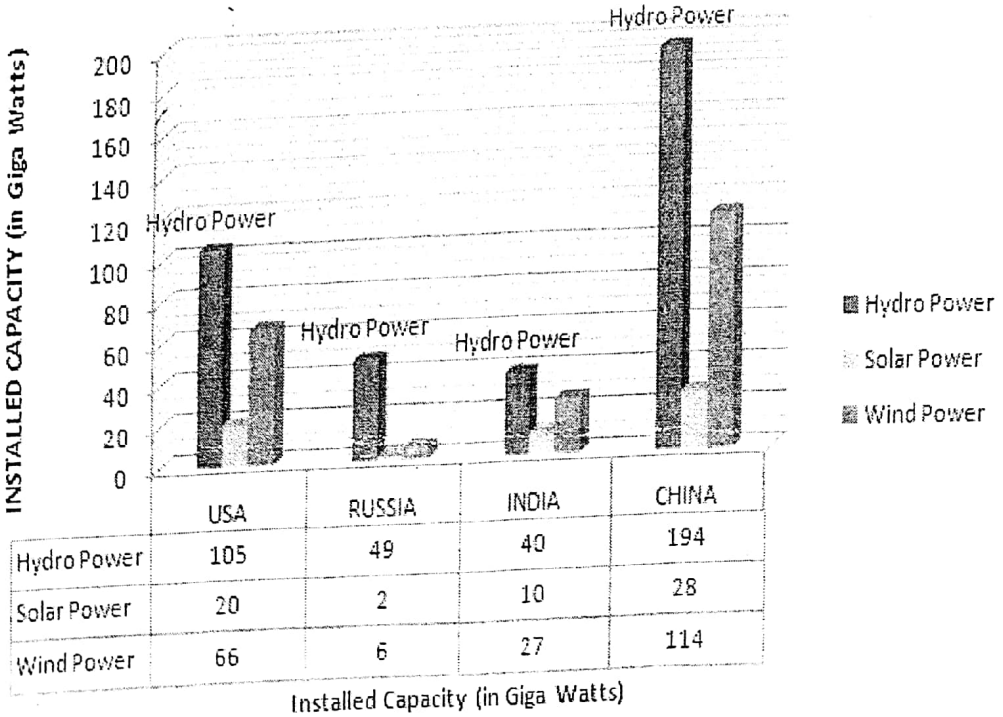
Electrical Energy Conservation

(BTEE155200)

Max Marks: 30 (to be scaled down to 15 for submission) **Duration: 90 minutes**

Note: Answer one full question from each section .

	Section- 1 (Unit – 1)	Marks	Course Outcome
1.	**(a)** Define primary and secondary sources of energy along with examples. List the pros and cons of a nuclear power station.	06	CO-1
	(b) REVA University is planning to have its own power generating station in Kattigenahalli campus due to the discontinuous power supply from BESCOM. It should be noted that REVA does not want to use conventional and other technologies which pollute the environment directly. Considering this scenario, what power plant will you suggest the management of REVA? Give a detailed schematic of the same along with the description of its operation. Highlight the advantages of the proposed power plant.	10	CO-1
	(c) How much money should Mr. Jack deposit in a savings bank account in order to withdraw a sum of Rs. 2, 74, 000 after 14 years? The bank is paying a rate of interest of 13%, compounded annually.	04	CO-2
		Total: 20	
	OR		
3.	**(a)** Write a brief note on 'Star Labeling' and 'ECBC'.	06	CO-2
	(b) Analyze the data shown below and prepare a brief report on the status of installed capacities of hydro, solar and wind power for countries considered below.	06	CO-1



	USA	RUSSIA	INDIA	CHINA
Hydro Power	105	49	40	194
Solar Power	20	2	10	28
Wind Power	66	6	27	114

	(c) What is 'Kyoto Protocol'?	03	CO-2
	(d) A person invests a sum of Rs. 10000 in a savings bank account at a nominal interest rate of 12.5% for 10 years, which is compounded quarterly. Find the maturity value of the deposit after 15 years.	05 Total: 20	CO-2
	Section-2 (Unit – 1 and 2)		
5.	(a) What is energy auditing? Mention the types of auditing.	04	CO-3/ CO-5
	(b) Explain any three energy auditing instruments.	06 Total: 10	CO-3
	OR		
6.	(a) Explain the pre – audit phase of detailed energy audit.	04	CO-3
	(b) Explain the following tariff – (i) Two – part tariff (ii) Three – part tariff (iii) Power factor tariff	06 Total: 10	CO-2

CO – 1: Understand the various energy sources and energy losses in different equipment

CO – 2: Develop capability in measurement and analysis of data to conserve energy

CO – 3: Conduct performance test on electrical equipment and calculate the energy efficiency of equipment

CO – 4: Develop the awareness on controlling of environmental pollution through implementing energy conservation measures

CO – 5: Become an energy auditor and conduct energy audit

UNIVERSITY

School of Computing and Information Technology

7th Semester B.TECH– Internal Assessment 1

Web Technology

BTCS15F7440

Max Marks: 30 ***(to be scaled down to 15 for submission)*** **Duration: 90 minutes**

Note: Answer one full question from each section

		Marks	Course Outcome
	Section- 1 (Unit-1)		
1.	a. John observed that URL starts with HTTP and also observed Internal Server Error for a web page he was accessing. In this context, explain what is HTTP and different phases of HTTP. Also describe about any four HTTP status code.	**10 Marks**	**CO-1**
	b. The owner of a startup company maintains the database of all his employees. Help him to create an employee registration form containing different fields like Name, Emp code, Gender, Address, Highest qualification with a dropdown list (B.Tech, M.Tech, B.Com, M.Com), Identity proofs he is having (Aadhar card, PAN card, driving license...)	**10 Marks**	**CO-1**
	OR		
2.	a. Abdul wants to develop a web pages. He wants to make use of heading tags, subscript, superscript, bold, italic, insert an image and also want to preserve white spaces. Demonstrate him how to apply these tags in a web page	**10 Marks**	**CO-1**
	b. Ram is accessing Internet and knows that computer understands only IP address. So help him to understand the concept of Fully Qualified Domain Name and explain how Fully Qualified Domain Name translates into IP address with diagram	**10 Marks**	**CO-1**
	Section-2 (Unit-2)		
3.	Ajay is interested to know about the level of style sheet that is having high priority. So explain him what are the different levels of style sheets and demonstrate with sample program about priority.	**10 Marks**	**CO-2**
	OR		
4.	Illustrate an HTML (with CSS) program to display the following Output: AIRCRAFT TYPES I)General aviation A. Single-Engine i)Tail wheel ii)Tricycle B. Dual-Engine i)Wing mounted engines ii)Push-pull mounted engines II) Commercial aviation A. Dual-Engine i) Wing mounted engines ii) Fuselage- Mounted engines	**10 Marks**	**CO-2**

CO-1: Describe the concepts of WWW including browser and HTTP protocol and various HTML tags.

CO- 2: Develop the modern web pages using the HTML and CSS features with different layouts as per need of applications.

VII Semester B.TECH– Internal Assessment 1
Programming with Python

BTCS15F7530

Max Marks: 30 ***(to be scaled down to 15 for submission)*** **Duration: 90 minutes**

Note: Answer one full question from each section

Section- 1 (Unit-1)

		Marks	CO
1.a	Illustrate the use of optional (default) and named (non-default) arguments in functions with suitable examples.	6	1
b	Develop a python program using exception handling by considering the following scenarios: i) 10/ "string" ii) 100 /0 iii) 100/A (A is undefined)	9	1
c	Apply the following functions on the tuple "tuple1" and write the observed output. tuple1=(10, "Hello", 10.5, 10+5j, 'a',"Hello",10) **Functions:** i) index(10.5) ii)append(10) iii) pop() iv) insert(3,20), v) count ("Hello")	5	1

OR

2.a	Apply concept of dictionary to implement switch statement of C in Python for developing a simple arithmetic calculator.	8	1
b	Consider the following sets and write the output for the operations given below i) a_set = {2, 4, 5, 9, 12, 21, 30, 51, 76, 127, 195} ii) b_set = {1, 2, 3, 5, 6, 8, 9, 12, 15, 17, 18, 21} **Operations:** i)a_set.union(b_set) ii) a_set.intersection(b_set) iii)a_set.difference(b_set) iv) b_set.difference(a_set)	6	1
c)	Illustrate the use of i)getcwd() ii)chdir() iii) join() iv)split() on files and directories with suitable examples.	6	1

Section-2 (Unit 2)

3 a	Why is string data type required? Explain briefly.	3	1
b	Illustrate the operations on strings with examples and give the syntax of each function.	7	1

OR

4	Apply the given slicing operations on the following string and write the output: my_string = 'My alphabet starts where your alphabet ends.' **slicing operations:** i)my_string[3:11] ii)my_string[3:-3] iii)my_string[0:2] iv)my_string[:18] v)my_string[18:]	5	1
b.	Explain String Methods with suitable examples .	5	1

CO1: Make Use of fundamentals of python like statements, functions, exceptions, errors, scripts, Data Types, Files and Dictionaries in real world applications.