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CSE71

New Horizon College of Engineering, Bangalore

Autonomous College affiliated to VTU, Accredited by NAAC with 'A' Grade & NBA

Makeup Examinations Jan 2020

WEB TECHNOLOGIES

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

	Module 1			
1 a)	Explain with a HTML5 document how to create a form with Employee Name, Password, Email and a Submit button. The Form should also contain a drop down menu for the Department.	5	L2	CO1
b)	List the two HTTP Phases and state various methods and status codes of HTTP	10	L1	CO1
c)	Analyze the purpose of MIME type in request/response transactions, with example	5	L4	CO1
	OR			
2 a)	Explain with a HTML5 program how to create a form with Student Name, Email and a video. The Form should also contain a navigation bar	5	L2	CO1
b)	Describe with a diagram the Domain name conversion on the web	10	L1	CO1
c)	Make distinction between Web Server Operations and characteristics.	5	L4	CO1
	Module 2			
3 a)	Recommend a XHTML page design to create 4 short paragraphs of text with the following 3 styles p1,p2 and p3: -p1 style must use left and right margins of 20 pixels, background color of red. -p2 style must use font size of 25 points and italic, foreground color of blue. p3 style must use a text indent of 1 cm and a margin of 25 pixels. Text must be underlined. The First and the third paragraphs must use p1 style, 2nd paragraph must use p2 style and the 4th paragraph must use p3	5	L5	CO2
b)	Explain with examples different selector forms in Cascading Style sheet.	10	L2	CO2
c)	Describe how 2 images can be floated around a paragraph on the left and the right side.	5	L1	CO2
	OR			
4 a)	How would you create a table with student information viz name, usn and subject using XHTML? Insert values for each student in rows (consider 2 students) . Row background of each student should be in different color. The Table should have a dashed border with thickness of 5 pixels.	5	L5	CO2
b)	Explain with examples different levels of style sheet in Cascading Style sheet.	10	L2	CO2
c)	Draw a neat diagram of the Box Model and explain border, margin and padding.	5	L1	CO2
	Module 3			
5 a)	Compare the Push() and Pop() method of an array with an example.	5	L4	CO3

b)	Design the java script code to Set the different borders for same table based on the user input.	10	L6	CO3

2006 NFL Divisional Winners

	American Conference	National Conference
East	New England Patriots	Philadelphia Eagles
North	Baltimore Ravens	Chicago Bears
West	San Diego Chargers	Seattle Seahawks
South	Indianapolis Colts	New Orleans Saints

c)	Evaluate the importance of following object available in JavaScript. List at least 3 methods for each. Math object Date Object	5	L5	CO3
6 a)	Distinguish between shift and unshift method of an array with an example.	5	L4	CO3
b)	Write a HTML document containing a Javascript function to compute the median of an array of numbers with at least two different data sets.	10	L6	CO3
c)	Prove the importance of pattern matching while designing a XHTML document that collects the USN (the valid format is: A digit from 1 to 4 followed by two upper-case characters followed by two digits followed by two upper-case characters followed by three digits; no embedded spaces allowed) of the user. Event handler must be included for the form element that collects this information to validate the input. Messages in the alert windows must be produced when errors are detected.	5	L5	CO3

Module 4

7a)	Using XHTML, design a document which contain three images, stacked on top of each other, with only enough of each showing. When the mouse cursor is placed over the exposed part of any image, it should rise to the top to become completely visible.	10	L3	CO4
b)	Create a program which allows the user to drag and drop words to complete a short poem using DOM 2 event model.	10	L6	CO4

OR

8 a)	Apply the concept of slow movement element on suitable example.	10	L3	CO4
b)	Create a document that display an image and three buttons. The buttons should be labeled simply 1, 2, and 3. When pressed, each button should change the content of the image to that of different image.	10	L6	CO4

Module 5

9 a)	Explain the logical internal structure of array in PHP and explain it in detail.	5	L2	CO5,CO6
b)	Demonstrate 3 different types of arrays used in PHP with examples.	10	L3	CO5,CO6
c)	How database access in PHP is done?.	5	L1	CO5,CO6

OR

10a)	Which function is used in PHP to set a cookie? Give an example and syntax.	5	L2	CO5,CO6
b)	Apply the database concept of PHP and create a Html form with Name, Address Line 1, Address Line 2, and E-mail text fields. On submitting, store the values in MySQL table. Retrieve and display the data based on Name.	10	L3	CO5,CO6
c)	What is session tracking?	5	L1	CO5,CO6

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CSE72

New Horizon College of Engineering, Bangalore

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Makeup Examination Jan/Feb 2020

SOFTWARE TESTING

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

	Module 1			
1 a)	State the importance of testing with testing life cycle diagram	5	L1	CO1
b)	List the categories of faults based on severity levels	5	L1	CO1
c)	Construct the different features of the SATM by assuming any ten real time ATM scenarios.	10	L3	CO1
	OR			
2 a)	Define the following terms 1)error2)fault 3)failure 4)test 5)incident	5	L1	CO1
b)	List all the distinct features of specification based testing with Venn diagrams.	5	L1	CO1
c)	Illustrate the improved version of next date problem with any 5 test cases.	10	L3	CO1
	Module 2			
3 a)	Explain weak robust and strong robust equivalence class testing with example.	10	L2	CO2
b)	Justify the usage of BVA with functions of two variables and highlight the limitations of BVA.	10	L5	CO2
	OR			
4 a)	Explain the test cases for the triangle problem with respect to decision table based testing.	10	L2	CO2
b)	Justify the idea of equivalence class testing to identify test cases by using one element from each equivalence class with commission problem.	10	L5	CO2
	Module 3			
5 a)	Construct DU paths for stocks, locks, total locks and sales for commission program.	10	L6	CO3
b)	Derive program graph for triangle problem with the help of structured program.	10	L4	CO3
	OR			
6 a)	Predict different test coverage metrics based on program graphs.	10	L6	CO3
b)	Identify the Rapps-Weyuker dataflow coverage metrics with a diagram.	10	L4	CO3
	Module 4			
7a)	Illustrate the mutation technique with suitable mutants.	10	L3	CO5
b)	Examine isLeap method from NextDate and derive the results.	10	L2	CO4
	OR			
8 a)	Classify different types of software reviews.	10	L3	CO5
b)	Identify the different stages of industrial strength inspection process.	10	L2	CO5
	Module 5			
9 a)	Illustrate any five types of locators in selenium	10	L3	CO6
b)	Classify the assertions provided by TestNG.	10	L4	CO6
	OR			
10a)	Show how the selenium web driver is used to perform automation testing with the detailed steps of installation.	10	L3	CO6
b)	Distinguish TestNG and Junit based on the key features.	10	L4	CO6

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CSE73

New Horizon College of Engineering, Bangalore

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Makeup Examinations Jan/Feb 2020

MOBILE APPLICATION DEVELOPMENT

Duration: 3 hrs | Max. Marks: 100

Answer FIVE full questions choosing ONE complete question from each module.

	Module 1			
1 a)	Explain Android architecture with a neat diagram	7	L2	CO1
b)	Categorize types of sensors	6	L3	
c)	Identify the basic building blocks of Android	7	L4	
	OR			
2 a)	Explain different Android debug tools and profilers	7	L2	CO1
b)	Classify UI components	6	L3	
c)	Characterize Android studio project structure	7	L4	
	Module 2			
3 a)	Create a mobile app simple calculator using radio buttons. Write the Java file and draw the layout for same	8	L6	CO2
b)	Illustrate the uses of Toasts	8	L3	
c)	Evaluate the differences between checkboxes and radio buttons	4	L5	
	OR			
4 a)	Create a mobile app Unit convertor using radio buttons. Write the Java file and draw the layout for same	8	L6	CO2
b)	Illustrate the uses of Linear layout	8	L3	
c)	Evaluate the differences between Date picker and Time picker	4	L5	
	Module 3			
5 a)	Explain service life cycle with diagram.	7	L2	CO3
b)	Analyze the use of various native android actions.	7	L4	
c)	Develop an application that uses intents in android for a simple application and write the java code.	6	L6	
	OR			
6 a)	Explain broadcast receivers.	7	L2	CO3
b)	Analyze the use of heads-up and status bar notification in android.	7	L4	
c)	Develop an application that uses toast notification in android for a simple application and write the java code.	6	L6	
	Module 4			
7a)	Explain the salient features and data definition language of SQLite in android.	6	L2	CO4, CO5
b)	Interpret the importance of shared preferences.	8	L5	
c)	Create an application that displays welcome page if login credentials are correct using SQLite database in android and write the java code.	6	L6	
	OR			
8 a)	Explain the file system in android.	6	L2	CO4, CO5
b)	Justify the importance of content providers.	8	L5	
c)	Create an application that stores the customer details of a bank using file in android and write the java code.	6	L6	
	Module 5			
9 a)	Identify the various steps involved in the process of signing and versioning the application in android.	6	L3	CO6
b)	Justify the importance of location based services in android.	8	L5	
c)	Analyze the different parameters associated with camera for an application in android.	6	L4	
	OR			
10a)	Identify the various steps involved in the process of using Google pay to distribute and monetize the application in android.	6	L3	CO6
b)	Evaluate best practices for security and privacy in android.	8	L5	
c)	Analyze the process of alerting SMS to one given phone number in android and write the java code.	6	L4	

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CSE741

New Horizon College of Engineering, Bangalore

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Makeup Examination Jan 2020

FUNDAMENTALS OF DATA SCIENCE

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

Module 1

1 a)	What is data? What is data science? How this discipline evolved? Why data science is considered as a necessary domain in this era.	**10**	**L1**	**CO1**
b)	Examine the relevance of the statement "data science is an interdisciplinary field"	**10**	**L4**	**CO1**
	OR			
2 a)	Define and describe the following terminologies i) Machine learning ii) Probabilistic Models iii) Statistical Models iv) Exploratory data analysis v) Artificial intelligence	**10**	**L1**	**CO1**
b)	Examine the steps to be followed in order to find the most common keywords people use in their job description. Assume the job descriptions have been scraped from the website indeed.com for companies actively hiring data scientists.	**10**	**L4**	**CO1**

Module 2

3 a)	Differentiate with examples the differences between qualitative and quantitative data with proper examples. Analyze the data analysis questions that can be framed for quantitative and qualitative column of a given dataset.	**10**	**L4**	**CO2**
b)	Interpret the level of measurement being used in each scenario. Give reasons for your findings. a) The number of motor-vehicle accidents on a particular stretch of the Pacific Highway in a week. b) Heat measured in degree Celsius. c) Children in elementary school are evaluated and classified as non-readers (0), beginning readers (1), grade level readers (2), or advanced readers (3). d) Your local police force wants to install cameras that can "catch" drivers who run red lights. They choose a busy intersection, install a test camera, and determine whether each car stops safely or "runs" the light. e) The teacher of a class of third graders records the eye color of each student.	**10**	**L3**	**CO2**
	OR			
4 a)	Compare and contrast with example datasets the four levels of data.	**10**	**L4**	**CO2**
b)	Explain data pre-processing by showing the steps in data pre-processing that can be used on the given tweet "This Wednesday morn, are you early to rise? Then look East. The Crescent Moon joins Venus & Saturn. Afloat in the dawn skies".	**10**	**L3**	**CO2**

Module 3

5 a)	Demonstrate with reasons which of the point estimates and confidence interval methods of inferential statistics is superior.	**10**	**L3**	**CO3**
b)	A couple has a 25% chance of a having a child with type O blood. Let X is the number of children with type O blood. i) Examine the type of random variable X is with proper reasons.	**10**	**L3**	**CO3**

ii) Examine the chance that 3 of their 5 kids have type O blood.

iii) Calculate the expected value and variance of the variable X and state the conclusion

OR

6 a)	A start-up team has three investor meetings coming up. We have the following probabilities: • 60% chance of getting money from the first meeting • 15% chance of getting money from the second • 45% chance of getting money from the third Calculate the probability of them getting money from at least one meeting	**10**	**L3**	**CO3**
b)	The number of calls arriving at your call center follows a Poisson distribution at the rate of 5 calls / hour. i) Examine the importance of Poisson random variable ii)Examine the probability mass function, expected value and variance of a Poisson distribution iii) Examine the probability that exactly six calls will come in between 10 and 11 p.m.	**10**	**L3**	**CO3**

Module 4

7a)	Analyze situations where SVM is used over a Random Forest Machine Learning algorithm.	**10**	**L4**	**CO4**
b)	Propose K Means Clustering solution for any example.	**10**	**L6**	**CO4**

OR

8 a)	Compare the application of regression trees and application of classification trees	**10**	**L4**	**CO4**
b)	Justify that Naïve Bayes Algorithm is a technique that helps to construct classifiers.	**10**	**L6**	**CO4**

Module 5

9 a)	Evaluate line graphs, bar charts and histograms with proper example and diagram	**10**	**L5**	**CO5**
b)	Explain the strategy involved in verbal communication	**10**	**L2**	**CO5**

OR

10a)	Evaluate correlation and causation with an example	**10**	**L5**	**CO5**
b)	Discuss the why / how/ what strategy of presenting	**10**	**L2**	**CO5**

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CSE745

New Horizon College of Engineering, Bangalore

Autonomous College affiliated to VTU, Accredited by NAAC with 'A' Grade & NBA

Makeup Examination Jan 2020

CYBER CRIME, FORENSICS AND LAW

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

	Module 1			
1 a)	Who is cybercriminal? How do criminals plan the attack?	5	L1	CO1
b)	Summarize the importance of social engineering in cybersecurity	5	L2	CO1
c)	Identify few real time scenarios to demonstrate email bombing.	10	L3	CO1
	OR			
2 a)	What is Cyberstalking? Give examples.	5	L1	CO1
b)	Summarize the difference between cybercrime and cyberdefamation	5	L2	CO1
c)	Identify the different classifications and categories of Cybercrime.	10	L3	CO1
	Module 2			
3 a)	What is phishing? Describe spear phishing.	5	L1	CO2
b)	Summarize on different categories of keyloggers	5	L2	CO2
c)	Identify the characteristics and differences between Virus and Worms, Trojan Horses and Backdoors	10	L3	CO2
	OR			
4 a)	What are Proxy servers and Anonymizers?	5	L1	CO2
b)	Summarize the counter measures of SQL injection attack	5	L2	CO2
c)	Identify the differences and purpose of DoS and DDoS attacks. Also identify the tools used to launch DoS attack	10	L3	CO2
	Module 3			
5 a)	Why do we need cyberlaws from the Indian context? Illustrate the positive aspects and weak areas of IT Act 2000.	10	L3	CO3
b)	Characterize the challenges to Indian law and cybercrime scenario in India.	10	L4	CO3
	OR			
6 a)	Illustrate the impacts of oversights in IT 2000 regarding Digital signatures.	10	L3	CO4
b)	Investigate/justify the impacts of IT Act 2000 amendments on information technology organization.	10	L4	CO4
	Module 4			
7a)	Analyze an email forensics from the investigation point of view.	10	L4	CO5
b)	Justify the different challenges in computer forensics.	5	L5	CO5
c)	Formulate the different steps in computer forensics laboratory.	5	L6	CO5
	OR			
8 a)	Characterize the relevance of OSI 7-layer model to computer forensics.	10	L4	CO5
b)	Justify the requirements for computer forensics.	5	L5	CO5
c)	Compose the relationship between computer forensics and stenography.	5	L6	CO5
	Module 5			
9 a)	Analyze printer, PDA, Scanner and mobile phone forensics.	10	L4	CO6
b)	Justify the hardware and software features of cell phones	5	L5	CO6
c)	Justify the importance of toolkit for handheld device forensics.	5	L6	CO6
	OR			
10a)	Identify the use of forensics on a real-life scenario and explain.	10	L4	CO6
b)	Justify the importance of forensics of blackberry wireless device.	5	L5	CO6
c)	Justify the role of computer forensics in litigation.	5	L6	CO6

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CSE746

New Horizon College of Engineering, Bangalore

Autonomous College affiliated to VTU, Accredited by NAAC with 'A' Grade& NBA

Makeup Examination Jan 2020

INTERNET OF THINGS

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

	Module 1			
1 a)	List and explain the four Evolutionary Phases of the Internet.	5	L1	CO1
b)	Discuss theIoT connected roadways for the Intersection Movement Assist(IMA) concept.	5	L2	CO1
c)	Use oneM2M IoT Standardized Architecture for heterogeneity and Illustrate its main elements with a diagram.	10	L3	CO1
	OR			
2 a)	Write the Distributed Compute and Data Management Across an IoT System	5	L1	CO1
b)	Explain the myriad ways to classify smart object	5	L2	CO1
c)	Illustrate in detail the Genesis of IOT	10	L3	CO1
	Module 2			
3 a)	Explain actuators and its classification	5	L2	CO2
b)	Identify with an example for data aggregation function in a WSNs	5	L1	CO2
c)	Evaluate the different IOT access technologies of the IEEE 802.11ah	10	L4	CO2
	OR			
4 a)	Discuss WSNs with the diagram of design constraints	5	L2	CO2
b)	Write a note on NB-IoT and LTE variations	5	L1	CO2
c)	Identify the different IOT access technologies of the LoRaWAN	10	L4	CO2
	Module 3			
5 a)	Illustrate with a neat block diagram, how to optimize IP for IOT using adaptation Layer.	6	L3	CO3
b)	Illustrate using DNP3 protocol translation to depict a scenario in which legency endpoint is connected across LLN running 6LoWPAN to an IP-capable SCADA server	6	L3	CO3
c)	Identify the raw socket scenarios for tunneling Legacy SCADA over IP network and elaborate each scenario with neat diagram	8	L4	CO3
	OR			
6 a)	Use 6TiSCH architecture to define four schedule management mechanism and three forwarding models	6	L3	CO3
b)	Illustrate the need for optimization in the constrained nodes	6	L3	CO3
c)	Identify the main factors applicable to IPv4 and IPv6 support in an IoT solution	8	L4	CO3
	Module 4			
7a)	Organize with a neat diagram the architecture of MPP shared nothing.	6	L4	CO4
b)	Illustrate Formal Risk Analysis structures Octave and Fair.	8	L3	CO4
c)	Characterize the Concept of Hadoop	6	L4	CO4
	OR			
8 a)	Identify a diagram for Distributed analytics throughout the IoT system	6	L4	CO4
b)	Illustrate Smart grid FAN analytics with Net-Flow example.	8	L3	CO4
c)	Identify and Describe the "Three Vs" to categorize big Data.	6	L4	CO4
	Module 5			
9 a)	Choose an IoT architecture to make Smart Connected environment and Explain in detail	10	L5	CO5
b)	Develop a circuit and write a program for Arduino/ Raspberry Pi to interface LDR	10	L6	CO5
	OR			
10a)	Choose an IoT architecture to make Smart city and Explain in detail	10	L5	CO5
b)	Develop a circuit and write a program for Arduino/ \Raspberry Pi to interface Piezo Buzzer	10	L6	CO5

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NHOP10

New Horizon College of Engineering, Bangalore

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Makeup Examination Jan 2020

DATA ANALYTICS

Duration: **3 hrs** Max. Marks: **100**

Answer five full questions choosing one complete question from each module.

Module 1

1 a)	Explain the different types of Data Analytics	**7**	**L2**	**CO1**
b)	Illustrate star schema for Microsoft Employee details	**7**	**L3**	**CO1**
c)	Illustrate fact constellation schema for Microsoft Employee details	**6**	**L3**	**CO1**
	OR			
2 a)	What are all the challenges confronted in Data Analytics	**7**	**L2**	**CO1**
b)	Illustrate snowflake schema for Amazon –Product details	**7**	**L3**	**CO1**
c)	Illustrate fact constellation schema forAmazon –Product details	**6**	**L3**	**CO1**

Module 2

3 a)	Explain how advanced compression is performed in vertica, with 3 encoding strategies.	**6**	**L2**	**CO2**
b)	Create the following table by properly mentioning the primary key and foreign key constraints. And insert at least five appropriate tuple to each of the table. **Unit id** and **Fruit id** are the primary key in Units table and Fruit table respectively. Unitid is the foreign key in the Fruit table Units(**unit d**,unitName, DateEntered, DateUpdated) Fruit(**Fruit id**,Fruitname,Unitid,Price)	**7**	**L6**	**CO2**
c)	Solve the following queries and display the output for the data enter in the above tables. 1. List all fruits with price greater than 100 2. Enter expiry date for each fruit in fruit table by inserting a column	**7**	**L3**	**CO2**
	OR			
4 a)	Explain how massively parallel processing is performed in vertica using a diagram.	**6**	**L2**	**CO2**
b)	Create the following table by properly mentioning the primary key and foreign key constraints. And insert at least five appropriate tuple to each of the table. Customer(id, name, age, address) Orders(oid, date, customer_id, amount)	**7**	**L6**	**CO2**
c)	Solve the following queries and display the output for the data enter in the above tables. 1. Find the average order amount placed by each customer. Display only the rows having average amount more than 5000 in the descending order of number of	**7**	**L3**	**CO2**

orders.

2. Display the details of a customer and the order if the ordered amount is below 1000.

Module 3

5 a)	Compare and contrast Replication and Segmentation	**6**	**L4**	**CO3,CO4**
b)	Creating projections manually for a table with 3 column choosing appropriate encoding strategy to implement Replication with ksafe = 1. Explain the output.	**7**	**L3**	**CO3,CO4**
c)	Illustrate how a file can be copied to a vertica database and how error logs can be verified	**7**	**L3**	**CO3,CO4**

OR

6 a)	Compare and contrast WOS & ROS	**6**	**L4**	**CO3,CO4**
b)	Creating projections manually for a table with 3 column choosing appropriate encoding strategy to implement Segmentation with ksafe = 0. Explain the output	**7**	**L3**	**CO3,CO4**
c)	Use the Vertica database to merge two tables and validate the output table data.	**7**	**L3**	**CO3,CO4**

Module 4

7a)	Illustrate KISSmetrics as a web analytic tool.	**6**	**L3**	**CO5**
b)	How many ways can you evaluate Dashboards?	**7**	**L5**	**CO5**
c)	Investigate Closed Loop model?	**7**	**L4**	**CO5**

OR

8 a)	Illustrate some of web content problems so that they can be rectified	**6**	**L3**	**CO5**
b)	Recommend web analytical process	**7**	**L5**	**CO5**
c)	Compare Aquisition Analysis and Behavior Analysis	**7**	**L4**	**CO5**

Module 5

9 a)	Analyze different Stages in target marketing strategy development	**6**	**L4**	**CO6**
b)	Use and explain marketing strategy for AVIS-Budget Car Rental	**7**	**L3**	**CO5**
c)	Explain in your own words, how Marketing Analytics is performed.	**7**	**L2**	**CO5**

OR

10a)	Compare different segmentation used in market research analysis	**6**	**L4**	**CO6**
b)	Use and explain marketing strategy for Xerox	**7**	**L3**	**CO6**
c)	What are the different methods marking analysis is executed?. Explain	**7**	**L2**	**CO6**