Course Code: 20CS41001 AR20

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad
IV B.Tech (CSE/AIML/DS/IoT/IT) I Semester (Regular) Examinations, December-2023

Big Data Analytics

Time: 3 hours | Max. Marks: 70

Answer All Questions
Assume any missing data suitably

PART-A

10 X 2M = 20M

			CO	BTL
1	a.	List out the Key Characteristics of Big Data.	1	1
	b.	What do you mean by Big Data Analytics?	1	1
	c.	Write down any three key design principles of Pig Latin.	2	1
	d.	Name few Hive built-in functions.	2	1
	e.	Compare and Contrast NoSQL and Relational Databases.	3	2
	f.	Write the functionality of Name Node and Data Node.	3	1
	g.	Write the Comparison between Reporting and Analysis from Big Data perspective.	4	1
	h.	What makes the R programming language versatile for Big Data Analytics?	4	2
	i.	Name any four open-source tools used for Big Data Visualization.	5	1
	j.	Write any four applications of Big Data Visualization.	5	1

PART-B

5 X 10M = 50M

			M	CO	BTL
2	a.	What are the keys steps to be followed for structuring the Big Data.	5	1	2
	b.	Give some insights on the career opportunities in Big Data Analytics.	5	1	3
		OR			
3	a.	Discuss the key stages in the evolution of Big Data.	5	1	3
	b.	Write the key aspects of Big Data Analytics.	5	1	3
4		Discuss in detail the building blocks of Hadoop Ecosystem with a neat sketch.	10	2	3
		OR			
5	a.	Give an overview on the relationship between the Cloud Computing and Big Data.	5	2	3
	b.	What are the Key concepts of In-Memory Computing technology and its application in handling Big Data. Give some examples of In-Memory computing technologies for Big Data.	5	2	4
6	a.	Define Map Reduce. Explain the implementation of Map reduce with suitable example.	5	3	2
	b.	What is the role of Driver Code, Mapper Code and Reducer Code in a Map reduce model with suitable example	5	3	2
		OR			

7	a.	Explain Google File System architecture with a neat diagram.	5	3	2
	b.	Explain in detail Hadoop Distributed File System (HDFS).	5	3	2
8	a.	Discuss in detail the different Big Data Analytical approaches.	5	4	3
	b.	List and explain the various stages and processes involved in a typical Big Data Analytics Life cycle.	5	4	3
		OR			
9	a.	Discuss the common techniques and functions used for manipulating and processing data in R programming Language.	5	4	3
	b.	Highlight the features of R Graphical User Interface.	5	4	3
10	a.	What are the Challenges of Big Data Visualization.	5	5	4
	b.	List out the various types of Big Data Visualization.	5	5	3
		OR			
11	a.	Summarize how Tableau is used for Big Data Visualization.	7	5	5
	b.	List any three proprietary tools for Big Data Visualization.	3	5	3

AR20

Course Code: 20CS41026

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

IV B.Tech (CSE(CS)/IT) I Semester (Regular) Examinations December 2023

Ethical Hacking

Assume any missing data suitably

Time: 3 hours | Answer All Questions | Max. Marks: 70

PART-A | 10X2M=20M

			CO	BTL
1	a.	List out different types of Hackers.	1	2
	b.	Define Threat.	1	1
	c.	What is Trojan?	2	1
	d.	List out different types of Viruses.	2	2
	e.	Explain DOS and DDOS attacks.	3	2
	f.	What is BOTNET?	3	1
	g.	What is SQL injection attack?	4	1
	h.	What is Buffer Overflow mutation?	4	1
	i.	What is Honey Pot?	5	1
	j.	Illustrate about penetration testing.	1	2

PART-B | 5 X 10M = 50M

			M	CO	BTL
2	a.	Classify different categories of penetration testing.	2	1	2
	b.	Examine the benefits of Ethical hacking.	8	1	3
		OR			
3	a.	Explain various limitations of Ethical Hacking.	5	1	2
	b.	Examine different types of cybercrimes.	5	1	3
4		Explain countermeasure techniques in preventing Trojans.	10	2	3
		OR			
5		What is the difference between Virus and Worm? Explain various counter measure techniques in preventing virus and worms.	10	2	2
6		Explain different types of DoS attacks and visualize it with a neat diagram.	10	3	4
		OR			
7		What is Flooding? Explain counter measures to prevent DoS/DDoS attacks?	10	3	2
8		How a hacker can perform Web application attack? Explain about SQL server Vulnerabilities.	10	4	4
		OR			
9		Discuss about buffer overflow Mutation Techniques in detail.	10	4	3
10		Discuss the process of sniffing traffic in wireless networks.	10	5	3
		OR			
11		Discuss the role of IDS in wireless networks.	10	5	3

Course Code: 20CS41009

AR20

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad

IV B.Tech (CSE-CS/IT) I Semester (Regular) Examinations December 2023

BLOCKCHAIN TECHNOLOGIES

Time: 3 hours

Max. Marks: 70

Answer All Questions

Assume any missing data suitably

PART-A

10 X 2M = 20M

			CO	BTL
1	a.	Illustrate double spending problem.	1	2
	b.	Differentiate between public and private blockchain	1	2
	c.	What is smart contract? What is the use of it?	2	1
	d.	Define crowdfunding.	2	1
	e.	What is meant by a node in hyperledger fabric?	3	1
	f.	List major components of hyperledger fabric network.	3	2
	g.	Survey any two case studies in blockchain-based supply-chain management.	4	3
	h.	What are the main featured services of blockchain technology in the financial domain?	4	2
	i.	Where is blockchain get stored? Is blockchain secure?	5	2
	j.	Summarize blockchain security challenges.	5	2

PART-B

5 X 10M = 50M

			M	CO	BTL
2	a.	What are the core components of blockchain architecture?	5	1	1
	b.	Justify how merkle trees are important for blockchain? Explain about merkle tree operation mechanism.	5	1	2
		OR			
3	a.	Describe different types of blockchain architecture also specify advantages and disadvantages of each type.	4	1	2
	b.	Write step-by-step procedure to create cryptocurrency.	3	1	2
	c.	What are few popular blockchain payment solutions?	3	1	1
4		Explain different types of consensus mechanisms in detail.	10	2	3
		OR			
5	a.	Build the steps used to solve Byzantine Generals' problem.	5	2	3
	b.	Analyze smart contract working operation with an example use case.	5	2	3
6	a.	What is hyperledger composer? Write its advantages.	5	3	2
	b.	Explain how hyperledger fabric networks are structured?	5	3	2
		OR			
7		Inspect the design goals of hyperledger fabric. Describe hyperledger reference architecture with a neat sketch.	10	3	3

8	a.	Explain how the blockchain technology is helpful for the diamond industry?	5	4	2
	b.	Discover why hyperledger indy is important for digital identities?	2	4	2
	c	Select the key characteristics of hyperledger indy?	3	4	3
		OR			
9	a.	Estimate the challenging issues in food chain industry? How to strengthen food safety with blockchain technology?	5	4	4
	b.	Justify how can blockchain helps to enhance traceability and transparency in supply chain management?	5	4	3
10	a.	What are blockchain security challenges?	4	5	2
	b.	Formulate how 51% attack is possible in blockchain mining.	6	5	3
		OR			
11	a.	Elaborate how scalability and security issues are resolved in blockchain technology?	5	5	3
	b.	How do channels in hyperledger fabric architecture can offer privacy and security mechanisms in certain cases? Justify.	5	5	3

Course Code: 20CE41071 **AR20**

Geethanjali College of Engineering and Technology (Autonomous), Hyderabad
IV B.Tech (ECE/EEE/IT/ME) I Semester (Regular) Examinations December 2023

GREEN BUILDINGS

(Assume any missing data suitably)

Time: 3 hours **Answer All Questions** **Max. Marks: 70**

PART-A

10 X 2M = 20M

		CO	BTL
1.	a. Define sustainable construction	1	2
	b. List two typical features of a green building	1	1
	c. Differentiate between conventional and green building delivery systems.	2	2
	d. What is an Integrated Design Process in green buildings?	2	1
	e. What is heat island mitigation in context of green buildings?	3	1
	f. Define the term - Smart Buildings.	3	1
	g. What was the main purpose of Energy Policy Act 1992 in the context of green buildings?	4	1
	h. Differentiate between green building and green building materials.	4	1
	i. What is building commissioning in green buildings?	5	1
	j. Define 'Construction Footprint' in sustainable construction.	5	1

PART-B

5 X 10M = 50M

			M	CO	BTL
2.	a.	Discuss the major environmental and resource concerns that led to the green building movement.	5M	1	2
	b.	Explain the obstacles faced in adoption of green buildings and how they can be addressed.	5M	1	2
		OR			
3.	a.	Illustrate Key requirements for a building to be considered "green".	5M	1	2
	b.	Explain Benefits of green buildings in terms of increased CO2 credit trading.	5M	1	2
4.	a.	What is ecological design? Discuss its merits and demerits in the context of green buildings.	5M	2	2
	b.	Compare and contrast any two popular green building rating systems - LEED and IGBC - in terms of their assessment process and criteria.	5M	2	2
		OR			
5.	a.	Explain the historical perspective and evolution of green building rating systems in India.	5M	2	2
	b.	Discuss on different phases included in the execution of a green building project.	5M	2	2
6.	a.	Explain various landscape approaches that can make a building sustainable. Discuss strategies for storm water management.	5M	3	2
	b.	Discuss the: (i) Significance of building envelope design. (ii) Role of active mechanical systems.	5M	3	2
		OR			

7.	a.	How can Smart Buildings and Energy Management Systems help in reducing overall energy consumption? Suggest an innovative solution.	5M	3	2
	b.	Explain about ozone depleting chemicals in HVAC systems.	5M	3	2
8.	a.	Discuss the waste water and landscaping water efficiency measures that can be adopted for an eco-friendly building.	5M	4	2
	b.	Explain the on-site and off-site organic waste management steps. How is construction waste handling important for a green building project?	5M	4	2
		OR			
9.	a.	What are the major green building material issues and selection priorities during construction? Suggest suitable locally available materials that can be used.	5M	4	2
	b.	Explain the strategies involved in high performance building hydrologic systems in a green building.	5M	4	2
10.	a.	Analyze the economics of green buildings by quantifying their costs and future savings. Compare cost & benefit with a conventional building.	5M	5	2
	b.	Explain site protection planning and health & safety planning to be implemented during green building construction. How is waste management done?	5M	5	2
		OR			
11.	a.	Explain about construction and demolition waste management.	5M	5	2
	b.	Explain the future directions of green buildings.	5M	5	2