Code: 7P2B52

M.C.A. V Semester Regular & Supplementary Examinations February 2021
.Net Technologies

Max. Marks: 60   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)
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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Illustrate built-in types in Common Type System.	6M	2	L2
	b)	Explain in detail about common language runtime.	6M	1	L2
		OR			
2.	a)	Explain the Common Language Runtime with a neat sketch.	6M	1	L2
	b)	Define the key improvements in .NET platform.	6M	1	L2
		UNIT–II			
3.	a)	Explain the looping construction in C# with syntax and examples.	8M	1	L2
	b)	Demonstrate the parameter passing mechanism in C#.	4M	3	L3
		OR			
4.	a)	Build a C# program to convert 2D array into 1D array.	6M	3	L3
	b)	Define an array. How to declare and initialize arrays in C# with example.	6M	2	L2
		UNIT–III			
5.		Show how to create a Traditional style Main Menu in windows form.	12M	3	L3
		OR			
6.	a)	Illustrate the way of accessing data from database using ADO.NET in C#.	6M	2	L2
	b)	Describe the process of binding DataTable objects to Windows forms GUI.	6M	1	L1
		UNIT–IV			
7.	a)	Explain Data Caching in ASP.NET.	6M	2	L2
	b)	Explain the procedure for creating Crystal Reports.	6M	1	L2
		OR			
8.	a)	Develop a ASP.NET web application for Bus ticket reservation system- ticket availability, ticket booking and ticket cancellation.	6M	3	L3
	b)	Develop a method to insert DataTables into DataSet.	6M	3	L3
		UNIT–V			
9.	a)	Explain .NET web services.	6M	1	L2
	b)	Discuss in detail about WSDL, UDDI and the concept behind web services.	6M	2	L2
		OR			
10.	a)	Explain the steps involved in the creation of Web Services in C# in detail.	6M	1	L2
	b)	Develop a Webservice to perform Simple interest calculation using .NET.	6M	3	L3

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Code: 7P2B54

M.C.A. V Semester Regular & Supplementary Examinations February 2021

Big Data

Max. Marks: 60   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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			Marks	CO	Blooms Level

UNIT–I

1.	a)	What are the four V's of Big Data? Give two examples of big data case studies.	6M	CO1	L1
	b)	Write about unstructured data.	6M	CO1	L4

OR

2.	a)	Discuss briefly about drivers for big data.	6M	CO1	L2
	b)	Describe briefly about various wider varieties of data sources.	6M	CO1	L2

UNIT–II

3.	a)	Discuss briefly the critical components of Hadoop.	6M	CO2	L2
	b)	Write in detail about crowdsourcing Analytics.	6M	CO2	L4

OR

4.	a)	Explain briefly the open-source technology for Big Data Analytics.	6M	CO2	L2
	b)	Write briefly about predictive analytics.	6M	CO2	L4

UNIT–III

5.	a)	Discuss in detail about evolution of Data Scientists.	6M	CO3	L2
	b)	How are data scientists different from data analysts? Explain	6M	CO3	L3

OR

6.		Discuss in detail about various categories of Analytics for Big Data.	12M	CO3	L2

UNIT–IV

7.		Write in detail about real-time architecture for conversations.	12M	CO4	L4

OR

8.		Discuss briefly about analytics business maturity model in detail.	12M	CO4	L2

UNIT–V

9.	a)	What is MapReduce in Hadoop? Explain.	6M	CO5	L1
	b)	Explain the building blocks of Hadoop MapReduce.	6M	CO5	L2

OR

10.		Write a short note on. i) Advantages of Hadoop MapReduce ii) Design of HDFS	12M	CO5	L4

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M.C.A. V Semester Regular & Supplementary Examinations February 2021
Business Analytics

Max. Marks: 60   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)
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UNIT–I

1. The Data Analytics Lifecycle portrays a best practices approach for an end-to-end analytics process from discovery to project completion. Comment on this statement by taking suitable example.   12M

OR

2. a) Explain and provide examples for descriptive, predictive, and prescriptive analytics?   6M

   b) Explain Business Analytics with suitable example   6M

UNIT–II

3. What is meant by the Theoretical Frequency Distribution? Discuss the salient features of Binomial, Poisson and Normal Distribution.   12M

OR

4. a) Find the mean and variance of Poisson Distribution   6M

   b) A petrol pump has 2 pumps. The service time follows the exponential distribution with a mean of 4 minutes and vehicles arrive for service in Poisson fashion at the rate of 10 per hour. Find:

   i) The probability that an arrival of a vehicle would have to wait.

   ii) The expected percentage of idle time for each pump.   6M

UNIT–III

5. a) Define Linear Regression Rules   6M

   b) Detail the challenges with the categorical values in the Linear Regression Model   6M

OR

6. a) Define Discrete Choice Modeling and discuss about its Deliverables   6M

   b) Explain the common features of Discrete Choice Models   6M

UNIT–IV

7. a) What is Duration Analysis?

   Define the terms: i) Failure ii) Survival iii) Risk   6M

   b) Write a note on Different types of Censorship done in Survival Analysis   6M

OR

8. Explain any two techniques used to identify patterns in Time Series Data   12M

UNIT–V

9. a) Explain K-means clustering   6M

   b) Discuss the various steps involved in the process of Classification   6M

OR

10. Explain FP – Growth algorithm in detail with example, also state its advantages and disadvantages   12M

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Code: 7P2B5F

M.C.A. V Semester Regular & Supplementary Examinations February 2021

Internet of Things

Max. Marks: 60   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) Elaborate the different challenges involved in design of IoT applications   6M

   b) Elaborate with example on Sensor based Body-Area Network   6M

OR

2. a) Explain in detail on the block diagram of IoT   6M

   b) Discuss on the different smart home applications of IoT   6M

UNIT–II

3. a) Elaborate on the Network Layer protocols in IoT   6M

   b) Discuss on the Application Layer Protocols in IoT   6M

OR

4. a) Discuss on the IoT functional blocks in detail   6M

   b) Explain the different communication models supported by IoT   6M

UNIT–III

5. a) How IoT can be used to monitor Air quality in a room   6M

   b) Elaborate on how Health and fitness can be monitored using IoT   6M

OR

6. a) Discuss briefly on machine diagnosis and prognosis application in industry using IoT   6M

   b) How is IoT useful in fleet tracking and shipment monitoring   6M

UNIT–IV

7. Explain the different steps involved in IoT design methodology in detail   12M

OR

8. Design an IoT System for weather monitoring   12M

UNIT–V

9. Explain on the following with respect to IoT:

    a. Serial Peripheral Interface

    b. I2C protocol addressing   12M

OR

10. Explain about the following:

    a. MapReduce Programming Model

    b. Hadoop MapReduce Job execution   12M

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Code: 7P2B51

M.C.A. V Semester Regular and Supplementary Examinations February 2021
Mobile Application Development

Max. Marks: 60   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)

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UNIT–I

1. a) What is Android? Why develop apps for Android?   6M

    b) Explain the types of Android applications.   6M

OR

2. a) What are the different tools required for the development of android applications.   6M

    b) How to developing for mobile and embedded devices.   6M

UNIT–II

3. a) How to use the manifest editor? Explain it.   6M

    b) Describe the Android application class with example.   6M

OR

4. Explain in detail the various types of Android application layouts.   12M

UNIT–III

5. a) What is SQLite? Explain it using a program for inserting the data.   6M

    b) How to implementing content provider queries?   6M

OR

6. a) Explain the retrieving and deletion of data from database created by using SQLite.   6M

    b) Demonstrate the process of creating a database using SQLite.   6M

UNIT–IV

7. a) How to create scalable layouts? Explain it.   6M

    b) Explain the Android text-to-speech.   6M

OR

8. a) How to using the sensors and sensors manager? Explain.   6M

    b) Explain the environmental sensors and its types.   6M

UNIT–V

9. a) How to selecting a location provider? Explain in detail.   6M

    b) Explain in detail using the Geo coder.   6M

OR

10. a) How to managing media play back out put?   6M

    b) Explain the camera settings and image parameters.   6M

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Code: 7P2B53

M.C.A. V Semester Regular & Supplementary Examinations February 2021
Object Oriented Modeling and Design with UML

Max. Marks: 60   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 12 = 60 Marks)
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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	What is OO development? What are OO Themes Explain?	6M	1	2
	b)	Define Model? Mention its purpose? Explain the types of Models?	6M	1	3
		OR			
2.	a)	What is conceptual Model? Why Conceptual model is required?	6M	1	3
	b)	What is UML? Explain the role of UML in Object Oriented Design	6M	1	3
		UNIT–II			
3.	a)	Define class diagram, attributes? List out different types of attributes?	6M	2	2
	b)	Illustrate the aggregation and composition with example?	6M	2	4
		OR			
4.	a)	Explain about interfaces and packages?	6M	2	2
	b)	Write a class model of windowing system?	6M	2	3
		UNIT–III			
5.	a)	Illustrate the relationships used in use case	6M	3	3
	b)	Formulate the purpose of Interaction diagram	6M	3	2
		OR			
6.		Explain in detail about activity diagram with an example	12M	3	4
		UNIT–IV			
7.		Explain in detail the concept of Event state diagram with the help of an example	12M	4	3
		OR			
8.		Write a short notes on			
		a) Time and space	6M	4	2
		b) Differentiate between process and threads	6M	4	3
		UNIT–V			
9.		How to draw the component diagram and explain with an example	12M	5	3
		OR			
10.	a)	What is the purpose of deployment diagram?	6M	5	3
	b)	Draw the deployment diagram for order management system	6M	5	4

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