(Time: 3 Hrs)   **Marks: 80**

N.B. : 1. Question no. 1 is **compulsory**.
       2. Solve any **Three** questions out of remaining **Five** questions.

Q1	a	Explain process of data science	**5**
	b	Explain the differences between BI and Data Science.	**5**
	c	Explain the benefits of using TFIDF in text analysis.	**5**
	d	How many sections does a box-and–whisker divide the data into? Explain with example	**5**
Q2	a	Explain in detail data analytics life cycle.	**10**
	b	Describe how logistic regression as a classifier	**10**
Q3	a	Explain k-NN with suitable example.	**10**
	b	How to achieve and sustain competitive advantage with Data Science?	**10**
Q4	a	Discuss model based clustering with example	**10**
	b	Suppose everyone who visits a retail website gets one promotional offer or no promotional offer at all. We want to see if making a promotional offer makes a difference. What statistical method would you recommend for this analysis?	**10**
Q5	a	Define Data visualization and explain tools and techniques associated with it.	**10**
	b	Explain Data Journalism in detail	**10**
Q6	a	Explain plot() and pairs() function in R. Suppose you are using the plot() function to produce scatterplots of the quantitative variables. When it will produce an error message, 'Error in plot(abc , xyz) : object 'abc' not found?'	**10**
	b	Explain ARIMA model in detail.	**10**

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(3 Hours)   **[Total Marks 80]**

N.B.:1) Q.1 is compulsory

2) Attempt any **three** from remaining **five** questions

3) All questions carry equal marks

Q.1 a).Explain global perspective of cybercrime   **[10]**

b). What are the attacks on Mobile Phones.   **[10]**

Q.2 a). Explain Credit card frauds in Mobile and Wireless Computing.   **[10]**

b). What do you mean by Virus , Worms, Trojans and Malware and discuss protection
mechanism against them.   **[10]**

Q.3a). What are the devices related to security issue.   **[10]**

b) Explain e-commerce and its types   **[10]**

Q.4 a). Explain various Keyloggers along with the role of anti Keyloggers.   **[10]**

b) Discus in details amendment made in IT Act 2000.   **[10]**

Q.5 a). Explain cloud computing with cyber-attacks.   **[10]**

b) What is blind SQL Injection attacks? Discuss mitigation of SQL Injection attack. **[10]**

Q.6   Short note on **(any two)**   **[20]**

a) The adjudication and appeals Under IT Act 2008

b) Global Trends in Cyber Law

c) Information Security Standard compliances

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[Time: Three Hours]   [Marks:80]

Please check whether you have got the right question paper.

N.B: a. Question no 1 is compulsory.
         b. Attempt any three questions out of remaining five questions.
         c. Assume suitable data wherever necessary.
         d. Suitable figures indicate marks.
         e. All questions carry equal marks.

Q.1	a.	What is software reuse? Explain code and design reuse.	**05**
	b.	Explain developer's myth and its reality.	**05**
	c.	Explain XP in brief.	**05**
	d.	Explain prototype model and its limitations.	**05**

Q.2	a.	How incremental model differs from waterfall model? In which situation you will prefer using incremental model.	**10**
	b.	Explain spiral model in detail.	**10**

Q.3   An assignment submission system is to be developed, where the student can submit   **20**
        assignment in person or online. Every assignment is given a grade. The system must
        generate following reports. Defaulter's list assignment wise, list of students submitted the
        assignment, individual student report. Each subject can have maximum 3 assignments.
        There may be different faculties teaching different subjects. At any time a faculty must not
        teach more than two subjects.

        Draw Use Case, Activity Diagram (for any two use cases), and Class diagram.

Q.4	a.	Explain web application testing strategies	**10**
	b.	Explain design principles.	**10**

Q.5	a.	Explain different types of test conducted on the software.	**10**
	b.	Write PDL to find large and small from two numbers. Draw CFG and design test cases for the same.	**10**

Q.6	a.	Explain SCRUM.	**20**
	b.	Explain different type of integration testing. What is the need of stub and driver?	

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