Subject	Marketing Analytics , Big Data Mining (Online Exam.)		
Roll No.		Marks	60 Marks
Total No. of Questions	3	Duration	3 Hours
Total No. of printed pages	1	Date	30.12.2017

Instructions: Question 1 is compulsory. Answer any one other question.

Q1)   (30 marks)

A sample of 478 students in grades 4 - 6 were selected from urban, suburban, and rural school districts with approximately 1/3 of the sample coming from each district. The students were asked whether making good grades, being good at sports, or being popular were what they most liked to choose to achieve at school. They were also asked to rank in order of importance the following factors that would make them popular among their friends: making good grades, being good at sports, being handsome or pretty, and having lots of money. They were also asked their gender, grade level, and other demographic information.

Attributes with possible
values:
Gender: boy, girl
Grade: 4, 5, 6
Age: 7,9, 10, 11, 12, 13
Race: Other, White
Urban/Rural: Rural, Suburban, Urban
    School: Brentwood Elementary, Brentwood Middle, Brown Middle, Elm, Main, Portage, Ridge, Sand, Westdale Middle
Goals: Grades, Popular, Sports (Goals students chose that they most liked to achieve at school)
The factors students ranked to make them popular are:

Grades: 1, 2, 3, 4
Sports: 1, 2, 3, 4
Looks: 1, 2, 3, 4
Money: 1, 2, 3, 4
(1 = most important, 4 = least important)
(Data attached along with)
With respect to the data given, answer the following questions:
   a) Is there a difference of goals across different ages?
   b) Do the goals of Girls and Boys vary significantly?
   c) What other observations would you make about this data?
   d) How can a publisher of school books use this information to improve his sales?

Q2)   **(20 marks)**

With respect to the tomslee_airbnb_london, answer the following questions:
   a) In the overall satisfaction column, 0 indicates no data. What is the significance of these data points? How would you clean the data?
   b) How do you look at the overall satisfaction level for customers with Airbnb in the city of London as shown by this data?
   c) What other observations would you make about this data?

Q3)   **(20 marks)**

   a) If a company selling mobile phones has a retention rate of 40% and an average ticket size of INR 12,000, what is its CLV?
   b) Consider:

	Prospects reached	Inquiries	Qualification rate	Conversion rate	CPM
Facebook ads	10,00,000	2,500	26%	60%	INR 1200
Google ads	10,00,000	10,000	42%	57%	INR 2500
Display ads	10,00,000	700	10%	40%	INR 300

Compare and recommend the most efficient way to reach out to the customers of this company.