

**PGDM (IBM), 2019-21**

**Insurance Analytics**

**INS-406**

**Trimester –IV, End-Term Examination: September 2020**

Time allowed: 2 Hours  
Max Marks: 50

Roll No: \_\_\_\_\_

**Instruction:** Students are required to write models, process, results and interpretations in answer booklet. They are also advised to submit soft copy to the invigilators.

**Q1. CILO-1**

What are support, confidence and lift in association rule of mining?  
Explain with examples. 15 marks

Find 3 way lift for the example mba-14-1001.xlsx. Write the detailed procedure and the interpretation of the solution in answer sheet. 15 marks

**Q2. CILO-2 & 3**

Give the detail procedure of solving a logistic regression. How will you incorporate non-linearity's and /or interactions in a logistic regression model? 15 marks

The file "LR\_5.xls" contains the following data for several launches of the space shuttle:

- Temperature (degrees Fahrenheit)
- Number of O-rings on the shuttle and the number of O-rings that failed during the mission

Use logistic regression to determine how temperature affects the chance of an O-ring failure. The *Challenger* disaster was attributed to O-ring failure. The temperature at launch was 36 degrees. Does your analysis partially explain the *Challenger* disaster? 15 marks

**Q3. CILO-2 & 3**

20 marks

Discuss in detail the different inputs and outputs you want to take while measuring the efficiency of insurance firms.

Find the efficiency, benchmarks (if any) and excess inputs (if any and shortage of outputs (if any in the data set ins1.xls