



লক্ষীমপুৰ তেলাহী কমলাবৰীয়া মহাবিদ্যালয়  
**LAKHIMPUR TELAHI KAMALABORIA COLLEGE**  
Azad, North Lakhimpur, Assam - 787031

ASSIGNMENT  
B.Sc.6<sup>th</sup> Semester 2020  
**Mathematics (Major)**  
Paper:MM 601 : Metric Spaces and Statistics

Date: Sept, 2020

Due date-

Max mark: 20

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**All questions are compulsory**

1. (a) Let  $(X,d)$  be a metric space. Show that a subset  $G$  of  $X$  is open iff  $G$  is union of open sphere (5)
- (b) Prove that a metric space is sequentially compact iff it has Bolzano-Weirstrass property (5)
2. (a) A speaks 80% truth and B speaks 75% truth. Find the Probability of contradicting or controversy between A and B in a conversation. (5)
- (b) Find mean and variance of Poission distribution (5)

**Best wishes**