লক্ষীমপুব তেলাহী কমলাববীয়া মহাবিদ্যালয়
LAKHIMPUR TELAHI KAMALABORIA COLLEGE
Azad, North Lakhimpur, Assam - 787031

ASSIGNMENT<br>B.Sc.6 ${ }^{\text {th }}$ Semester 2020<br>Mathematics (Major)<br>Paper:MM 604 : Space Dynamics and Relativity

Date: Sept, 2020
Due date-
Max mark: 20
All questions are compulsory

1. (a) For a Spherical triangle ABC, Prove that

$$
\begin{equation*}
\sin C \cos B=\sin a \cos b-\cos a \sin b \cos C \tag{3}
\end{equation*}
$$

(b) In a spherical triangle ABC if C be a right angle and D the middle point of AB , Show that

$$
\begin{equation*}
\cos ^{2} \frac{1}{2} C \sin ^{2} C D=\sin ^{2} a+\sin ^{2} b \tag{4}
\end{equation*}
$$

2. (a) Show that the right ascension $\alpha$ and the declination $\delta$ of the sum will always be connected by the equation

$$
\begin{equation*}
\tan \delta=\tan \epsilon \sin \alpha \tag{4}
\end{equation*}
$$

(b) Write short notes on

- Vernal equinox
- summer solstice

3. (a) Write short notes on

- Length Contraction
- Time Dilation
(b) Deduce the transformation formula for momentum and energy
(5)


## Best wishes

