SEVENTH SEMESTER B. TECH (ELECTRONICS AND INSTRUMENTATION)
PROCTORED ONLINE MAKE-UP EXAMINATION - Feb/March. 2022
SUBJECT: Reliability and Safety Engineering (ICE 4069)

TIME: 2.20-3:35 PM   **DATE: 19/02/2022**   **MAX MARKS 20**

Note: Answer All questions

1	A	Prove that Mean Time To Failure (MTTF) of an exponential distribution is inversely proportional to the failure rate.	4M
	B	Derive the expression for unreliability of a continuous random variable.	3M
	C	Derive the expressions for mean and variance of a Weibull distribution.	3M
2	A	Using Maximum Likelihood Estimator, Estimate the failure rate of exponential distribution whose data is given in table 2A.	4M
	B	Illustrate the basic elements required for improvement of a product safety program.	4M
	C	Describe different types of human errors.	2M

Table 2A

TBF (hours)	2600	3200	4700	7400	8000	9800
$R(t_i)$	1	0.5	0.3	0.1	0.066	0.033