National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Advance Database Concepts	Course Code:	CS451
	Program:	BS(Computer Science)	Semester:	Spring 2017
			Total Marks:	
	Due Date:	30-Jan-2017	Weight:	
	Section	A	Page(s):	1
	Quiz:	1 (Transactions)		

Instruction/Notes:

Q: Consider the following transactions:

T_1: $r_1(X)$ $w_1(X)$ $r_1(Y)$ $w_1(Y)$ **T_2:** $r_2(X)$ $w_2(X)$ $r_2(Z)$ $w_2(Z)$ **T_3:** $r_3(Y)$ $w_3(Y)$ $r_3(Z)$ $w_3(Z)$

Following are some statistics about these transactions

- Time taken by **T_1** to complete is 5 min, **T_2** is 180 min, **T_3** is 240 min.
- Time taken to roll back **T_1** is 10 min, **T_2** is 240 min, **T_3** is 360 min. (in case of failure/error)
- Failure/error rate of **T_1** is 85%, **T_2** is 20%, **T_3** is 10%.
- **T_2** and T3 are dependent on **T_1**, such that the $r_2(X)$ should be performed after $w_1(X)$, and $r_3(Y)$ should be performed after $w_1(Y)$

Consider all of the three types of Schedules Based on Recoverability and discuss which one will work best and which one will work worst for scheduling **T_1 T_2 T_3** in interleaved way, such that the schedule can be recovered in case of failure/error and time to recover should be minimized, using minimum restrictions.