GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER IV (NEW) – • FXAMINATION – WINTER 2016

ME – SEMESTER IV (NEW) – • EXAMINATION – WINTER 2016			
Subject Code: 741201 Date: 26/10)
St	ibject]	Name: Hydrological Modeling	
Time:02:30 pm to 05:00 pm Total Marks:			70
Ins	struction	IS:	
	1.	Attempt all questions.	
	2. 3.	Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Compare lumped versus distributed hydrological modeling.	07
	(b)	Write the importance and implications of 'time step' in hydrological modeling.	07
Q.2	(a) (b)	Why and how sensitivity analysis is performed in modeling studies? Demonstrate the role played by GIS technologies in pre-processing and post processing of hydrological modeling data. OR	07 07
	(b)	Demonstrate the role played by remote sensing technologies in working with hydrological modeling.	07
Q.3	(a)	Can GIS be used as statistical and hydrological simulation modeling?	07
	(b)	Define: Variance, Covariance, Skewness coefficient. OR	07
Q.3	(a) (b)	Discuss limitations and sources of errors in modeling. Explain the importance of the 'public domain' simulation packages through examples in water resources management.	07 07
Q.4	(a)	Explain various hydrological data sets and their importance in simulation modeling	07
	(b)	Discuss various types of surface water quantity management models. OR	07
Q.4	(a)	Write the capabilities of "MODFLOW".	07
-	(b)	Discuss various ground water prediction and management models.	07
Q.5	(a) (b)	Explain SCS Curve Number method for runoff estimation. What is HRU's in SWAT? Explain formation of HRU's and their role played in modeling.	07 07
0.5		OR Emplein MUSI E theory for an illen and in	^ =
Q.5	(a) (b)	How calibration is accomplished in SWAT? Write complete procedure with role of SWAT Editor.	07 07
