	Seat	No.:				Enrolment No												
		G	UJA	RA'	Т ТЕ	CH	NOL	OGI	CAI	UN	IVE	RSI'	ΤY					
ME – SEMESTER I (NEW) – • EXAMINATION – SUMME												IMER	ER 2016					
	Subject Code: 2713302										Date: 17/05/2016							
	Sub	ject Nam	ne: H	ydrol	ogy a	nd W	aters	shed N	Mana	geme	nt							
	Time: 02:30 pm to 05:00 pm							_					Total Marks: 70					
	Instr	uctions:	_															
		1. Atte																
		2. Mak 3. Figu			_		erever II mark		ary.									
		J. Ligu	i cs to	the Hg	,111 11141	cate Iu	11 111641 1	10.										
Q.1	(a)	What is in	nfiltrat	ion? D	Discuss	the fa	ctors a	ffectin	g the	infiltra	tion ra	te.				07		
	(b)	Discuss c	atchm	ent ch	aractei	ristics 1	for pro	ducing	run o	ff.						07		
Q.2	(a)	What do you understand by unit hydrograph? write the assumptions and limitations of unit 07																
		hydrograph theory.																
	(b)												07					
		given below. Determine the area of the catchment and the ordinates of the 6h unit																
		hydrogra Time	pn. 0	6	12	18	24	30	36	42	48	54	60	66	72			
		(hour)		0	12	10	24	30	30	42	40	34	00	00	12			
		Direct	0	25	175	320	360	310	230	165	105	60	30	10	0			
		Runoff																
		(m3/s)																
	(3.)	OR																
	(b)	A coffer dam is designed for a 20 years flood and constructed. It takes 5 years to complete the construction of main dam. What is the risk that coffer dam may fail before the end of										07						
		the construction of main dam. What is the risk that correct dam may fail before the end of the construction period? What return period in the design of coffer dam would have																
		reduced t		-		iai roit	iii pei	iou iii	the de	orgin or	Collei	aum	would	nave				
Q.3	(a)	Dofino w	otorch	od ond	dicone	na vyota	rchad	monog	omont	in data	sil .					07		
Ų.S	(a) (b)												07					
	(8)	(i) Size (_						etwor	k.				0.		
				-			-	OR										
Q.3	(a)														07			
	(b)	What are	the di	fferent	ways	of har	vesting	rainw	ater? I	Explair	any t	wo in	detail.			07		
Q.4	(a)	What is stochastic process? Give classification of stochastic process.												07				
	(b)												07					
ΩA	(a)	Disauss	orrala	tion or	nd maan	accion	onolya	OR ia in d								07		
Q.4	(a) (b)	Discuss c			_		-									07		
o =																		
Q.5	(a)	Describe dynamic models for hydrological analysis of catchment. (i) Stochastic and deterministic models (ii) Concentual and empirical models																
	(b)	(i) Stochastic and deterministic models. (ii) Conceptual and empirical models Discuss single event rainfall runoff models												07				
	(10)	Discuss single event rainfall runoff models OR														37		
Q.5	(a)	Describe														07		
	(b)	What is h models.	ydrolo	ogical-	simula	tion m	odeling	g? Wri	te the a	advant	ages a	nd dis	advant	ages o	of such	07		
