B.CIVIL ENGG. 4TH YEAR 1ST SEM. SUPPLEMENTARY EXAM. 2017

Subject: CONCRETE TECHNOLOGY (ELEC-I).   TIME: 3 Hours   Full Marks:100

(50 marks for each part)

Use a separate Answer-Script for each part
Necessary different tables and graphs are allowed in the Exam. hall

No. of questions	Part I (Answer question No. 1 and any 3 from the rest)	Marks (5+3X15=50)
1. (a) (b)	Write Short note (any one) Carbonation of concrete Flyash concrete	5
2.	What do you mean by grade of concrete and how can you measure compressive strength of concrete in the laboratory?	15
3.	What do you mean by workability of concrete and describe any one test for measuring the workability of concrete in the laboratory.	15
4.	What are the factor affecting durability of concrete and describe briefly.	15
5.	Describe different types of mineral admixeture added with concrete with their properties.	15
6.	What do you mean by self-compacting concrete and describe slump flow test for measuring the workability of self-compacting concrete.	15

Form A : Paper-setting Blank

Ref. No. ...*EX/CE/T/416C/2017(S)*

.........*B. Civil Engineering 4th Year*... EXAMINATION, *2017*
(1st / 2nd Semester / ~~Repeat~~ / Supplementary / ~~Annual / Bi-Annual~~)

SUBJECT ....*Concrete Technology*
(Name in full)

PAPER ....*XX*...................

Full Marks 100
(50 marks for part II)

Time: ~~Two hours~~/Three hours/~~Four hours/Six hours~~

Use a separate Answer-Script for each part

No. of Questions	PART II	Marks
	Different tables and charts are allowed in the examination hall	
1.	**Answer all questions**	
	Design a concrete mix as per DoE method with the following requirement	25
	i) Characteristic strength =30MPa	
	ii) Degree of Workability=High	
	iii) Type of exposure=Moderate	
	iv) Degree of quality control=Fair	
	v) Max^m permissible water cementitious material ratio=0.55	
	Material Data	
	a) Cement : OPC, Specific gravity of cement: 3.15	
	b) Specific gravity of coarse aggregate: 2.74, Nominal max^m size of coarse aggregate: As obtained in question no 1.a.	
	c) Specific gravity of fine aggregate: 2.68, % passing of fine aggregate through 600 micron sieve: 50%	
	d) Amount of fly ash: 30% of total cementitious material.	
	e) Specific gravity of fly ash: 2.85	
2)	a) Describe the effect of C_3S and C_3A on properties of concrete?	5
	b) What is bulking of sand?	5
	c) How heat of hydration is related to the hydration of different compounds of the cement?	5
	d) For full hydration of cement, the minimum water cement ratio is 0.38. Explain.	5
	e) What is the difference between initial set and flash set of cement?	5