

B. E. CONSTRUCTION ENGINEERING FOURTH YEAR FIRST SEMESTER - 2018**SUBJECT ADVANCED CONCRETE TECHNOLOGY**

Time : Three Hours

Full Marks : 100

No of Questions	Question	Marks
	Answer any five questions.	
Q1.	Write a short note on hot weather concreting.	20
Q2.	Prepare a comparative statement related to the properties and performance of fly-ash, ground granulated blast furnace slag and silica fume based concrete.	20
Q3.a.	State whether the following statements are 'TRUE' or 'FALSE'. (i) Higher the coarse aggregate content, higher is the possibility of shrinkage. (ii) Introduction of fibres into concrete increases the compressive strength of concrete by two times that of concrete without steel fibre. (iii) In case of concreting in cold weather, strapping time of formwork will increase. (iv) Higher fibre content increases the possibility of balling effect. (v) Higher dose of super-plastisizer increases the setting time of concrete.	05
Q3.b.	Write short note on passing ability of self compacting concrete.	07
Q3.c.	What are the advantages of self compacting concrete over conventional concrete?	08
Q4.a.	A high range water reducing admixture is used in production of flowable concrete. The relevant data are as follows : Solid dose : 0.7% Cement content : 425 kg/m ³ Solid content : 32% Specific gravity of the water reducing admixture : 1.11 What is the volume of water that will be introduced into concrete due to the use of the admixture?	05
Q4.b.	Discuss the different modes of transport of harmful ingredient into concrete.	10
Q4.c.	What are the different tests performed in fresh state to assess the performance of self compacting concrete?	05

B. E. CONSTRUCTION ENGINEERING FOURTH YEAR FIRST SEMESTER - 2018**SUBJECT ADVANCED CONCRETE TECHNOLOGY****Time : Three Hours****Full Marks : 100**

No of Questions	Question	Marks
Q5.	Discuss the improvement in various properties of concrete due to introduction of fibre into concrete.	20
Q6.a.	Write a short note on micro structure of concrete	15
Q6.b.	Calculate the weights of fine and coarse aggregates of concrete (1 cum) w/c = 0.45, cement=400kg/cum, coarse aggregate : fine aggregate = 60:40 (by weight). Specific gravity of cement, fine and coarse aggregates are 3.15, 2.65 and 2.70 respectively.	05