NAME OF FACULTY :- MR. ANAND PRAKASH
DICIPLINE :- CIVIL ENGG.
SEMESTER :- 4TH
SUBJECT :- CONCRETE TECHNOLOGY
LESSON PLAN DURATION :- FROM JAN, 2018 to APRIL, 2018
WORK LOAD PER WEEK :- 3 Lecture/week

	THEORY	
Week	Lecture Day	Topic
		Assignment/Test
1st	1	Introduction: Definition of concrete, properties of concrete,
	2	Uses of concrete in comparison to other building materials. Advantages and disadvantages of concrete.
	3	Cement: physical properties of cement; different types of cement as per IS Codes,Classification of aggregates according to size and shape
2nd	4	Characteristics of aggregates: Particle size and shape, surface texture, specific gravity of aggregate
	5	Bulk density, water absorption, surface moisture, bulking of sand, deleterious materials soundness
	6	Grading of aggregates: coarse aggregate, fine aggregate
3rd	7	All-in- aggregate; fineness modulus; interpretation of grading charts
	8	Water: Water Quality requirements as per IS:456-2000
	9	Hydration of cement principle of water-cement ratio, Duff Abram's Water-cement ratio law
4th	10	Limitations of water-cement ratio law and its effects on strength of concrete
	11	Properties in plastic state: Workability, Segregation
	12	Bleeding and Harshness
5th	13	Factors affecting workability, Measurement of workability: slump test
	14	Compacting factor and Vee Bee consistometer
	15	Recommended slumps for placement in various conditions as per IS:456-2000/SP-23
6th	16	Properties in hardened state: Strength
	17	Durability, Impermeability
	18	Dimensional changes
7th	19	Objectives of mix design, introduction to various grades as per IS:456-2000
	20	Introduction to various grades as per IS:456-2000
	21	Proportioning for nominal mix design as prescribed by IS 456-2000
8th	22	Proportioning for nominal mix design as prescribed by IS 456-2000
	23	Adjustment on site for: Bulking of fine aggregate
	24	Water absorption of aggregate, workability
9th	25	Difference between nominal and controlled concrete
	26	Introduction to IS-10262-2009-Code for controlled mix design.
	27	Introduction to Admixtures
10th	28	For improving performance of concrete for improving performance of concrete
	29	Introduction to Mineral Admixtures for improving performance of concrete
	30	Concreting under special conditions, difficulties and precautions before, during and after concreting
11th	31	Cold weather concreting, Under water concreting
	32	Hot weather concreting,Ready mix concrete
	33	Fibre reinforced concrete
12th	34	Polymer Concrete
	35	Fly ash concrete,Silica fume concrete
	36	Storing of cement in a warehouse,at site,Effect of storage on strength of cement, Determination of warehouse capacity for storage of Cement
13th	37	Storing of Aggregate: Storing of aggregate at site ,Batching of Cement ,Batching of aggregate Measurement of water,Hand mixing
	38	Machine mixing - types of mixers, capacities of mixers, choosing appropriate size of mixers, operation of mixers,Maintenance and care of mixers
	39	Transportation of concrete: Transportation of concrete using: wheel barrows, transit mixers, chutes, belt conveyors, pumps, tower crane and hoists etc.
14th	40	Transportation of concrete: Transportation of concrete using: wheel barrows, transit mixers, chutes, belt conveyors, pumps, tower crane and hoists etc.
	41	Checking of form work, shuttering and precautions to be taken during placement
	42	Hand compaction ,Machine compaction - types of vibrators, internal screed vibrators and form vibrators
15th	43	Selection of suitable vibrators for different situations,Finishing concrete slabs - screeding
	44	Floating and trowelling,Objective of curing, methods of curing like ponding
	45	Membrane curing, steam curing, chemical curing ,Duration for curing and removal of form work
16th	46	Jointing: Location of construction joints, treatment of construction joints, expansion joints in buildings - their importance and location
	47	Defects in concrete: Identification of defects and methods of removing defects
	48	Rebound Hammer Test,Pulse Velocity method