

Kadi Sarva Vishwavidyalaya, Gandhinagar
M.E. (Civil Infrastructure Engineering) Semester: III
 (w.e.f. Academic Year 2017-18)

Subject Name: Construction Techniques for Infrastructure

Subject code: MECV302-N-B

A. Learning objectives:

- To introduce remote sensing and GIS as an important enabling tool for earth surface research problems and applications.
- To introduce the basics of remote sensing and GIS and the main satellite/sensors systems in use.
- To provide information of different engineering fields using remote sensing and GIS.

B. Teaching Scheme (Credits and Hours):

Teaching Scheme				Credit Scheme			Evaluation Scheme				
Lect (Hrs)	Tu (Hrs)	Prac. (Hrs)	Total (Hrs)	Theory	Pra/TW	Total	UE	IE	CIA	Prac/Viva	Total
03	02	00	05	03	02	05	70	30	20	30	150

C. Detailed Syllabus:

Unit No.

Topics

1. **Introduction** : Introduction to Advanced Construction Techniques
2. **Construction for High Rise Structures**: Buildings, Chimneys, Cooling Towers
3. **Construction Techniques of Special Structures**: Lattice Towers and Transmission Line Structures, On Shore and Off Shore Structures, Geodesic Structures.
4. **Temporary Structures & Techniques Strengthening of Various R.C.C Structures** :Temporary Structures for new and damaged structures, Advance Demolition and Dismantling Techniques. Retrofitting, Strengthening of Various R.C.C Structures, Strengthening of Masonry Structures.
5. **Precast and Pre Stressing Techniques.**: Modular Coordination: Basics of Modular Co-Ordination, Advantages of Modular Coordination, applications of Modular Coordination
6. **Erection Technology**: Erection Cycle, Erection Methods for Various Types of Buildings And Steel Structures.

D. Lesson Planning:

Unit No.	Topics	Hours	Weightage (%)
1	Introduction .	2	5
2	Construction for High Rise Structures	10	22
3	Construction Techniques of Special Structures	10	22
4	Temporary Structures & Techniques Strengthening of Various R.C.C Structures	10	22
5	Precast and Pre Stressing Techniques.	9	19
6	Erection Technology:	4	10
Total		45	100

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E. Instructional method and pedagogy (Continuous Internal Assessment) (CIA)

- Attendance is compulsory in lectures which carries 05 Marks.
- At regular intervals assignments is given to all students which carries 10 marks. Evaluation of these assignments will be observed under Daily Homework Daily Assessment (DHDA) System.
- One internal exam of 30 marks is conducted as a part of internal theory evaluation.

F. Students Learning Outcomes:

At the end of the course

- An understanding of the application of advanced construction techniques and use of a wide range of its
- Knowledge of various types of special structures techniques.

G. Text Books & Reference Books:

1. Construction Technology by S.S. Ataev - Mir Publishers
2. Prefabrication of Reinforced Concrete by P. Dyanchenko & S. Mirotvorsky - Mir Publishers
3. Industrial Building and Modular Design by Henrick Nissen - Cement Concrete Association, London.
4. Construction Technology (Vol. I to IV) by R. Chudlay – Longman
5. Practical foundation engineering hand book, RobertwadeBrown, McGraw Hill Publications,
6. Construction Dewatering: New Methods and Applications, Patrick Powers. J., John Wiley & Sons.
7. Advanced Construction Techniques , Roy Chudley&Roger Greeno, Pearson Prentice Hall
8. Construction Planning, Equipment & Method,Peurifoy ,Tata McGraw Hall Pub.
9. Construction Technology, Sankar S, Saraswati S, Oxford University Press
10. Concrete Technology: Theory and Practice, M.S. Shetty, S.Chand Pub. 5.