



# ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

| Discipline: | Semester: 6 <sup>th</sup>         | Name of the Teaching Faculty: Umakant Pradhan   |
|-------------|-----------------------------------|---|
| Subject: CM | No of Days/Week Class Allotted: 4 | Semester From date: 13-1-23 To date 23-5-23 No.of Weeks:  |
| WEEK        | Class Day                         | Theory Topics   |
|             |                                   | Aims & objectives of construction management & functions of construction management.                |
|             |                                   | The construction team components - owner, engineer, architect, contractor. their function.          |
|             |                                   | Inter-relationship & jurisdiction with construction components.                                     |
|             |                                   | Resources for construction management - men, machines, materials & money.                           |
|             |                                   | 1   |
|             |                                   | Importance of construction planning.  |
|             |                                   | Developing work breakdown str. for construction work.   |
|             |                                   | construction scheduling by Gantt charts - preparation of Gantt charts for simple construction work. |
|             |                                   | Preparation of schedules for labour, materials, machinery, finance for small work.                  |
|             |                                   | 1   |
|             |                                   | Limitation of Gantt charts & construction scheduling by network techniques.                         |
|             |                                   | Definition of PERT & CPM techniques with advantages & disadvantages.                                |
|             |                                   | Network analysis, estimation of time & critical path.   |
|             |                                   | Application of PERT & CPM techniques in simple construction works.                                  |
|             |                                   | 5th   |

| WEEK | Class Day | Theory Topics   |
|------|-----------|---|
|      | 1st       | Classification of Storage - Storage of Stock.   |
|      | 2nd       | Issue of materials - indent, invoice & bin card.  |
|      | 3rd       | Job lay out - objectives, Review plans, & specification, lay out of equipments.   |
|      | 4th       | Location of equipment, organizing labour at site.   |
|      | 5th       | Job lay out for different construction site.  |
|      | 1st       | Principle of storing material at site.  |
|      | 2nd       | Introduction - characteristics, structures & its importance of construction organization.                               |
|      | 3rd       | Organization types - lines & staff, function & their characteristics.   |
|      | 4th       | Principle of organization - meaning & significance of terms - control, authority, responsibility, job & task.           |
|      | 5th       |   |
|      | 1st       | Leadership - necessity, styles of leadership & role of leader.  |
|      | 2nd       | Human relations with subordinates, peers, supervisors, characteristics of group behavior, mob psychology.               |
|      | 3rd       | Handling of grievances, absenteeism, labour welfare.  |
|      | 4th       | Conflicts in organization - genesis of conflicts types - intrapersonal, interpersonal, intergroup, resolving conflicts. |
|      | 5th       |   |

| Line: 19098 | Semester:                       | Name of the Teaching Faculty:   |              |
|-------------|---------------------------------|---|--------------|
| Subject:    | No of Days/Week Class Allotted: | Semester From date: _____ To date _____   | No.of Weeks: |
| WEEK        | Class Day                       | Theory Topics   |              |
|             | 1st                             | Preparing the Labour Schedule.  |              |
|             | 2nd                             | Essential steps for optimum labour output.  |              |
|             | 3rd                             | Labour characteristics, wages and their payment.  |              |
|             | 4th                             | Labour incentives, motivation - classification of motives different approaches to motivation.       |              |
|             | 5th                             |   |              |
|             | 1st                             | Preparing the equipment schedule.   |              |
|             | 2nd                             | Identification of different alternative equipment.  |              |
|             | 3rd                             | Importance of owning & operating costs in making decisions for hiring & purchase of equipment.      |              |
|             | 4th                             | Inspection & testing of equipment.<br>& maintenance of equipment.                                   |              |
|             | 5th                             |   |              |
|             | 1st                             | Concept of quality in construction.   |              |
|             | 2nd                             | Quality standards - during construction, after construction, destructive & non-destructive methods. |              |
|             | 3rd                             | Programme & progress of work, in monitoring progress with work study.                               |              |
|             | 4th                             | Analysis & control of physical & financial progress corrective measures.                            |              |
|             | 5th                             |   |              |

| WEEK | Class Day | Theory Topics   |
|------|-----------|---|
|      | 1st       | Importance of safety of management in discipline.                     |
|      | 2nd       | causes & effects of accidents in construction works.                  |
|      | 3rd       | safety measures in worksites for excavation, scaffolding.             |
|      | 4th       | formwork, fabrication & erection, demolition.                         |
|      | 5th       |   |
|      | 1st       | Development of safety consciousness.                                  |
|      | 2nd       | Safety legislation - workmen's compensation act, contract labour act. |
|      | 3rd       | Introduction to vulnerability Atlas of India,                         |
|      | 4th       | Concepts of natural hazards & disasters.                              |
|      | 5th       |   |
|      | 1st       | vulnerability profile of India.                                       |
|      | 2nd       | Definition of disaster related terms.                                 |
|      | 3rd       | Earthquake hazard & vulnerability.                                    |
|      | 4th       | Magnitude & intensity scales of earthquake.                           |
|      | 5th       |   |

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| WEEK        | Class Day | Theory Topics   |   |  |  |  |
|             | 1st       | Seismic zones & earthquake hazard maps.   |   |  |  |  |
|             | 2nd       | Types of structures & damage classification, effects in housing & resistant measures. |   |  |  |  |
|             | 3rd       | wind / cyclone hazard & vulnerability, wind speed & pressures.                        |   |  |  |  |
|             | 4th       | wind hazard & cyclone occurrence maps.  |   |  |  |  |
|             | 5th       |   |   |  |  |  |
|             | 1st       | Storm surveys & cyclone resistant measures.   |   |  |  |  |
|             | 2nd       | Flood hazard & vulnerability.   |   |  |  |  |
|             | 3rd       | flood hazard & flood prone areas of the country.                                      |   |  |  |  |
|             | 4th       | General protection of habitants & flood resistant construction.                       |   |  |  |  |
|             | 5th       |   |   |  |  |  |
|             | 1st       | Landslide & thunderstorm incidence maps, measures against Tsunami hazards.            |   |  |  |  |
|             | 2nd       | Housing vulnerability risk tables.  |   |  |  |  |
|             | 3rd       | uses of vulnerability atlas of India.   |   |  |  |  |
|             | 4th       | Housing vulnerability risk tables & usage of vulnerability                            |   |  |  |  |
|             | 5th       |   |   |  |  |  |



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| WEEK        | Class Day                       | Theory Topics   |              |
|             | 1st                             | Inclusion of Vulnerability atlas in Tender documents. |              |
|             | 2nd                             | Introduction to Cryptography                          |              |
|             | 3rd                             | Public Key Infrastructure                             |              |
|             | 4th                             | Digital Signature                                     |              |
|             | 5th                             |   |              |
|             | 1st                             | Introduction to Blockchain                            |              |
|             | 2nd                             | Blockchain based system                               |              |
|             | 3rd                             | Smart Contracts                                       |              |
|             | 4th                             | Blockchain based system                               |              |
|             | 5th                             |   |              |
|             | 1st                             | Introduction to Cloud Computing                       |              |
|             | 2nd                             | Cloud based system                                    |              |
|             | 3rd                             | Cloud Computing                                       |              |
|             | 4th                             | Cloud based system                                    |              |
|             | 5th                             |   |              |