

**MAHAMAYA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCE,
NUAPADA**

LESSON

Discipline : CIVIL ENGG.	Semester: 6TH	Name of the Teaching Faculty : MISS SUPRAVA BAG
Subject : ACTE	No. of Days / per week class	Semester From date : 10.03.2022 TO 10. 06.2022 No. of WeekS : 15
Week	Class Day	Topics
3DR MARCH	1st	1.1 Fibers and Plastics ₁ Types of fibers- Steel, Carbon, glass fibers
	2nd	Use of fibers as construction material, properties of Fibers.
	3rd	Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets.
	4th	contd.
4TH MARCH	1st	Use of plastic as construction material.
	2nd	1.2 Artificial Timbers – Properties and uses of artificial timber.
	3rd	Types of artificial timber available in market, strength of artificial timber.
	4th	1.3 Miscellaneous materials – Properties and uses of acoustics materials,
5TH MARCH	1st	wall claddings, plaster boards, micro-silica
	2nd	artificial sand, bonding agents, adhesives etc.
	3rd	2 Prefabrication 2.1 Introduction, necessity and scope of prefabrication of buildings
	4th	history of prefabrication, current uses of prefabrication , types of prefabricated systems,
1ST APRIL	1st	classification of prefabrication, advantages and disadvantages of prefabrication,
	2nd	2.2 The theory and process of prefabrication, design principle of prefabricated systems,
	3rd	contd.
	4th	types of prefabricated elements, modular coordination
2ND APRIL	1st	contd.
	2nd	2.3 Indian standard recommendation for modular planning.
	3rd	3 Earthquake Resistant Construction 3.1 Building Configuration
	4th	3.2 Lateral Load resisting structures

3RD APRIL	1st	3.3 Building characteristics
	2nd	3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems.
	3rd	contd.
	4th	3.5 Safety consideration during additional construction and alteration of existing Buildings
4TH APRIL	1st	3.6 Additional strengthening measures in masonry building-corner reinforcement,
	2nd	lintel band, sill band, plinth band, roof band, gable band etc.
	3rd	4 Retrofitting of Structures 4.1 Seismic retrofitting of reinforced concrete buildings :
	4th	4.2 -Sources of weakness in RC frame building
5TH APRIL	1st	4.3 -Classification of retrofitting techniques and their uses
	2nd	contd.
	3rd	5 Building Services 5.1 Cold Water Distribution in high rise building, lay out of installation
	4th	contd.
1ST MAY	1st	5.2 Hot water supply – General principles for central plants-layout
	2nd	contd.
	3rd	5.3 Sanitation –soil and waste water installation in high rise buildings
	4th	contd.
2ND MAY	1st	5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring
	2nd	contd.
	3rd	iii) Fuses and their types iv)Earthing and their uses
	4th	contd.
3RD MAY	1st	5.5 Lighting – Requirement of lighting, Measurement of light intensity
	2nd	contd.
	3rd	5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilatio
	4th	contd.

4TH MAY	1st	5.7 Mechanical Services- Lifts, Escalator, Elevators – types and uses.
	2nd	contd.
	3rd	6 Construction and earth moving equipments – 6.1 Planning and selection of construction equipments
	4th	contd.
5TH MAY	1st	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel
	2nd	contd.
	3rd	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors
	4th	contd.
1ST JUNE	1st	contd.
	2nd	6.4 Owning and operating cost – problems
	3rd	7 Soil reinforcing techniques 7.1 Necessity of soil reinforcing.
	4th	7.2 Use wire mesh and geo-synthetics.
2ND JUNE	1st	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.
	2nd	contd.
	3rd	contd.
	4th	contd.

**MAHAMAYA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCE,
NUAPADA**

LESSON PLAN

Discipline : CIVIL ENGG.	Semester: 4TH	Name of the Teaching Faculty : MISS SUPRAVA BAG
Subject : H & I ENGG.	No. of Days / per week class allotted : 05	Semester From date : 10.03.2022 TO 10. 06.2022 No. of WeekS : 15
Week	Class Day	Topics
3DR MARCH	1st	1 HYDROSTATICS: 1.1 Properties of fluid: density, specific gravity, surface tension, capillarity, viscosity and their uses
	2nd	contd.
	3rd	contd.
	4th	1.2 Pressure and its measurements: intensity of pressure, atmospheric pressure, gauge pressure, absolute pressure and vacuum pressure
	5th	contd.
4TH MARCH	1st	contd.
	2nd	relationship between atmospheric pressure, absolute pressure and gauge pressure
	3rd	contd.
	4th	pressure head; pressure gauges.
	5th	1.3 Pressure exerted on an immersed surface: Total pressure, resultant pressure
5TH MARCH	1st	expression for total pressure exerted on horizontal & vertical surface
	2nd	contd.
	3rd	2 KINEMATICS OF FLUID FLOW: 2.1 Basic equation of fluid flow and their application: Rate of discharge, equation of continuity of liquid flow
	4th	contd.
	5th	contd.
1ST APRIL	1st	total energy of a liquid in motion- potential, kinetic & pressure, Bernoulli's theorem and its limitations. Practical applications of Bernoulli's equation.
	2nd	contd.
	3rd	contd.
	4th	2.2 Flow over Notches and Weirs: Notches, Weirs, types of notches and weirs, Discharge through different types of notches and weirs-their application (No Derivation)
	5th	contd.
2ND APRIL	1st	contd.
	2nd	contd.
	3rd	2.3 Types of flow through the pipes: uniform and non uniform; laminar and turbulent; steady and unsteady; Reynold's number and its application
	4th	contd.
	5th	contd.

3RD APRIL	1st	2.4 Losses of head of a liquid flowing through pipes: Different types of major and minor losses
	2nd	Simple numerical problems on losses due to friction using Darcy's equation, Total energy lines & hydraulic gradient lines (Concept Only).
	3rd	contd.
	4th	contd.
	5th	2.5 Flow through the Open Channels: Types of channel sections-rectangular, trapezoidal and circular, discharge formulae- Chezy's and Manning's equation, Best economical section.
4TH APRIL	1st	contd.
	2nd	3 PUMPS: 3.1 Type of pumps 3.2 Centrifugal pump: basic principles, operation, discharge, horse power & efficiency.
	3rd	contd.
	4th	contd.
	5th	3.3 Reciprocating pumps: types, operation, discharge, horse power & efficiency
5TH APRIL	1st	contd.
	2nd	1 Hydrology 1.1 Hydrology Cycle 1.2 Rainfall: types, intensity, hyetograph
	3rd	1.3 Estimation of rainfall, rain gauges, Its types(concept only),
	4th	1.4 Concept of catchment area, types, run-off, estimation of flood discharge by Dicken's and Ryve's formulae
	5th	contd.
1ST MAY	1st	2 Water Requirement of Crops 2.1 Definition of irrigation, necessity, benefits of irrigation, types of irrigation 2.2 Crop season
	2nd	2.3 Duty, Delta and base period their relationship, overlap allowance, kharif and rabi crops
	3rd	contd.
	4th	2.4 Gross command area, culturable command area, Intensity of Irrigation, irrigable area, time factor, crop ratio
	5th	3 FLOW IRRIGATION 3.1 Canal irrigation, types of canals, loss of water in canals
2ND MAY	1st	3.2 Perennial irrigation
	2nd	3.3 Different components of irrigation canals and their functions
	3rd	contd.
	4th	3.4 Sketches of different canal cross-sections
	5th	3.5 Classification of canals according to their alignment, Various types of canal lining – Advantages and disadvantages
3RD MAY	1st	contd.
	2nd	4 WATER LOGGING AND DRAINAGE : 4.1 Causes and effects of water logging, detection, prevention and remedies
	3rd	contd.
	4th	5 DIVERSION HEAD WORKS AND REGULATORY STRUCTURES 5.1 Necessity and objectives of diversion head works, weirs and barrages
	5th	contd.

4TH MAY	1st	contd.
	2nd	5.2 General layout, functions of different parts of barrage
	3rd	contd.
	4th	5.3 Silting and scouring
	5th	5.4 Functions of regulatory structures
5TH MAY	1st	contd.
	2nd	6 CROSS DRAINAGE WORKS : 6.1 Functions and necessity of Cross drainage works - aqueduct, siphon, super passage, level crossing
	3rd	contd.
	4th	contd.
	5th	contd.
1ST JUNE	1st	6.2 Concept of each with help of neat sketch
	2nd	contd.
	3rd	7 DAMS 7.1 Necessity of storage reservoirs, types of dams
	4th	contd.
	5th	7.2 Earthen dams: types, description, causes of failure and protection measures.
2ND JUNE	1st	contd.
	2nd	7.3 Gravity dam- types, description, Causes of failure and protection measures.
	3rd	contd.
	4th	7.4 Spillways- Types (With Sketch) and necessity.
	5th	contd.