

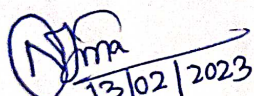
GOVERNMENT POLYTECHNIC, SAMBALPUR (RENGALI)				
DEPARTMENT OF CIVIL ENGINEERING				
NAME OF THE FACULTY: Shri. NIRANJAN JENA , ( PTGF, Civil Engineering)				
LESSON PLAN OF SUBJECT- Th 3. ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT , 6TH SEM, SUMMER-23 w.e.f. 14.02.2023				
DATE	WEEK NO.	TOPIC	PERIODS ASSIGNED PER TOPIC	PERIODS AVAILABLE PER WEEK
14.02.23 TO 17.02.23	W-1	<b>1 Advanced construction materials</b>  1.1 Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers.	10	2
20.02.23 TO 25.02.23	W-2	Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material.		4
27.02.23 TO 04.03.23	W-3	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber. 1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.		4
06.03.23 TO 11.03.23	W-4	<b>2 Prefabrication</b>  2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication,	8	4
13.03.23 TO 18.03.23	W-5	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination 2.3 Indian standard recommendation for modular planning.		4
20.03.23 TO 25.03.23	W-6	<b>3 Earthquake Resistant Construction</b>  3.1 Building Configuration 3.2 Lateral Load resisting structures 3.3 Building characteristics 3.4 Effect of structural irregularities-vertical irregularities,		4



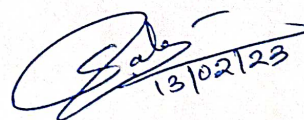
27.03.23 TO 01.04.23	W-7	plan configuration problems. 3.5 Safety consideration during additional construction and alteration of existing Buildings. 3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc.	8	4
03.04.2023 TO 08.04.2023	W-8	<b>4. Retrofitting of Structures</b> 4.1 Seismic retrofitting of reinforced concrete buildings : 4.2 -Sources of weakness in RC frame building	8	4
10.04.2023 TO 15.04.2023	W-9	4.3 -Classification of retrofitting techniques and their uses		4
17.04.2023 TO 22.04.2023	W-10	<b>5 Building Services</b> 5.1 Cold Water Distribution in high rise building, lay out of installation 5.2 Hot water supply – General principles for central plants-layout	8	4
24.04.2023 TO 29.04.2023	W-11	5.3 Sanitation –soil and waste water installation in high rise buildings 5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring iii) Fuses and their types iv) Earthing and their uses 5.5 Lighting – Requirement of lighting, Measurement of light intensity 5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation 5.7 Mechanical Services- Lifts, Escalator, Elevators – types and uses.		4
01.05.2023 TO 06.05.2023	W-12	<b>6 Construction and earth moving equipments –</b> 6.1 Planning and selection of construction equipments 6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel 6.3 Study and uses of compacting equipments like	10	4+1



08.05.2023 TO 13.05.2023	W-13	tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors 6.4 Owing and operating cost – problems		4+1
15.05.2023 TO 20.05.2023	W-14	7. Soil reinforcing techniques 7.1 Necessity of soil reinforcing. 7.2 Use wire mesh and geo-synthetics.	8	4
22.05.2023 & 23.05.2023	W-15	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.		4
ONWARDS	W-16	REVISION AND DISCUSS ON PREVIOUS YEAR QUESTION PAPER		4

  
 13/02/2023  
 C.N. Jena, PTGF

Signature of Concerned Faculty  
 Department of Civil Engineering

  
 13/02/23

C/S Signature of Sr. Lect./ HOD (S/c)  
 Department of Civil Engineering