

GOVERNMENT POLYTECHNIC, SAMBALPUR (RENGALI)

NAME OF THE FACULTY:Smt. Swetapadma Sahoo (Sr. Lecturer), Civil Engineer wing

LESSON PLAN OF SUBJECT- Th 3. ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT , 6TH SEM, S-22 w.e.f. 10.03.2022

DATE	WEEK NO.	TOPIC	PERIODS ASSIGNED PER TOPIC	PERIODS AVAILABLE PER WEEK
10.03.22 TO 12.03.22	W-1	1 Advanced construction materials 1.1 Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers. Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material. 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.		2
14.03.22 TO 17.03.22	W-2		10	4
21.03.22 TO 26.03.22	W-3			4
28.03.22 TO 02.04.22	W-4	2 Prefabrication 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, 2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of		4

11.04.22 TO 16.04.22	W-5	prefabricated elements, modular coordination 2.3 Indian standard recommendation for modular planning.		
18.04.22 TO 23.04.22	W-6	3 Earthquake Resistant Construction 3.1 Building Configuration 3.2 Lateral Load resisting structures 3.3 Building characteristics 3.4 Effect of structural irregularities-vertical irregularities, 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.		
25.04.22 TO 30.04.22	W-7			
02.05.22 TO 07.05.22	W-8	4. Retrofitting of Structures 4.1 Seismic retrofitting of reinforced concrete buildings : 4.2 -Sources of weakness in RC frame building 4.3 -Classification of retrofitting techniques and their uses		
09.05.22 TO 14.05.22	W-9			
17.05.22 TO 21.05.22	W-10	5 Building Services 5.1 Cold Water Distribution in high rise building, lay out of installation 5.2 Hot water supply – General principles for central plants-layout 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 - functions of wiring iii) Forces and their types iv) Earthing and their types		

23.05.22 TO 28.05.23	W-11		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
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		6 Construction and earth moving equipments –		
31.05.22 TO 04.06.22	W-12	6.1 Planning and selection of construction equipments 6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel	4+1 10	
06.06.22 TO 11.06.22	W-13	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors 6.4 Owning and operating cost – problems	4+1	
13.06.22 TO 18.06.22	W-14	7. Soil reinforcing techniques 7.1 Necessity of soil reinforcing. 7.2 Use wire mesh and geo-synthetics.	8	
20.06.22 TO 25.06.22	W-15	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.	4	
27.06.22 TO 30.06.22	W-16	REVISION AND DISCUSS ON PREVIOUS YEAR QUESTION PAPER	4	

Sir
Date: 15/07/22
HOD (F)

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Eco. 4th