

Shri G.S. Institute of Technology & Science, Indore Electronics & Telecommunications Engineering Department	
Subject name	Advanced Mobile Communications
Subject Code	EC45603

SUMMARY LECTURE PLAN:

S.NO.	TOPIC	NUMBER OF LECTURES
1	UNIT-I-Mobile Communications Overview	6
2	UNIT-II- Introduction to 5G Communication	6
3	UNIT-III- Spectrum and Connectivity Issue	6
4	UNIT-IV- 5G Network	6
5	UNIT-V- Current state and Challenges	6

DETAILED LECTURE PLAN

S.No.	UNIT	TOPIC	No. OF LECTURES
1.	I	Reviews of 3G technology, 3G services and data rates	1
2.	I	4G technology, LTE,	1
3.	I	LTE advanced pro(3GPP release 13+)	1
4.	I	VoLTE, OFDM, MIMO	1
5.	I	IMT standards-IMT-2000	1
6.	I	IMT-2020 and IMT Advanced	1
7.	II	5G-Beam Forming technique	1
8.	II	5G-Millimeter wave communication	1
9.	II	5G-eMBB technology	1
10.	II	5G- Data speed enhancement through URLLC technology	1
11.	II	5G- machine to machine communication technology	1

12.	II	5G-Vehicle to everything (V2X) technology	1
13.	III	5G-spectrum access/sharing, channels and signals/waveforms in 5G	1
14.	III	Carrier aggregation, small cells, large cells, low mobility large cells(LMLC), dual connectivity	1
15.	III	Connectivity in rural areas	1
16.	III	Bharatnet, TVWS, Long-range WiFi, FSO	1
17.	III	Non-terrestrial fronthaul/backhaul solutions	1
18.	III	LEOs, HAP/UAV	1
19.	IV	NR networks and its various modes	1
20.	IV	5G-Non-orthogonal multiple access technologies	1
21.	IV	5G- Radio Access Networks and its types	1
22.	IV	Network Function Virtualization-its types and benefits	1
23.	IV	Software defined networking (SDN) in 5G	1
24.	IV	5G-New Radio (NR) Air Interface	1
25.	V	5G penetration in developed countries	1
26.	V	Deployment challenges in low-middle income countries	1
27.	V	Stronger backhaul requirements, dynamic	1
28.	V	Spectrum access and usage of unlicensed spectrum	1
29.	V	Contrasting resource requirements	1
30.	V	Introduction to 6G technolgoly	1