



Technical college\Mosul	30 Weeks	No. of week hours		
Department: Medical Instrumentation Engineering		Th.	App.	Unit
		2	3	6
Third Year	Subject: Power Electronics.			

أهداف المادة: - استخدام العديد من القطع الالكترونية وكذلك تحليل الدوائر الالكترونية ذات العلاقة مع القوى الكهربائية .

Week	Syllabus
1 st	Introduction to power electronics.
2 nd , 3 rd	Switching devices, power & control device.
4 th , 5 th	Types and characteristic, rating (diode , transistor ...).
6 th , 7 th , 8 th	Methods of turning – on & turning – off.
9 th , 10 th	Protection of power devices.
11 th , 12 th	Triggering & base drive circuits.
13 th , 14 th , 15 th	Controlled rectifiers , 1 – phase & 3 – phase circuits.
16 th , 17 th , 18 th	Half – wave & full – wave circuits .
19 th , 20 th , 21 st	D.C choppers ; step – up & step – down choppers.
22 nd , 23 rd	A.C phase controllers.
24 th , 25 th , 26 th	Invertors , 1 – phase & 3 – phase bridges.
27 th , 28 th	Some applications : a – uninterruptible power supply,
29 th , 30 th	(UPS) b – switching mode power supply (SMP) .