

## Syllabus for B.Tech – Energy Engineering

Course Number & Title: EN301 – Power Generation, Transmission and Distribution	
L-T-P-C: 3-1-0-8	
Offered in (Odd/ Even / Any): Semester V	
Pre-Requisite: Nil	
Preamble / Objectives (Optional): To set a foundation on the fundamental concepts of Power System Generation, Transmission, and Distribution.	
Course Content/ Syllabus: Electrical power generation; economic consideration of electrical power; power factor improvement; power transmission; line parameters : resistance, inductance and capacitance; transmission line modelling and classifications; overhead lines : types of conductors, volume of conductors; types of towers; calculation of Sag and tension; insulators; corona; underground cables; HVDC transmission; flexible AC transmission; power distribution system: types, bus bar arrangement; concentrated and uniform loading, methods of solving distribution problems.	
Books (In case UG compulsory courses, please give it as “Text books” and “Reference books”. Otherwise give it as “References”.	
Texts: (Format: Authors, <i>Book Title in Italics font</i> , Volume/Series, Edition Number, Publisher, Year.)	
1.	D P Kothari and I Nagrath, <i>Power System Engineering</i> , 3 <sup>rd</sup> Edition, Tata McGraw Hills, 2019.
2.	J J Grainger and W D Stevenson, <i>Power System Analysis</i> , McGraw Hill Education, 2017.
References: (Format: Authors, <i>Book Title in Italics font</i> , Volume/Series, Edition Number, Publisher, Year.)	
1.	P Kundur, <i>Power System Stability and Control</i> , McGraw Hill, 1993.
2.	A Chakrabarti, M L Soni, P V Gupta, V S Bhatnagar, <i>A Text book of Power system Engineering</i> Dhanpat Rai, 2000.
3.	C L Wadhwa, <i>Electrical Power system</i> , Wiley Eastern Ltd. 2005.