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## External e-learning resources semester wise

### I/II Semester

#### Elements of Electronics Engineering Course Code: 20EC110 / 20EC210

1. <http://www.freebookcentre.net/Electronics/Communication-Books.html>
2. <http://www.freebookcentre.net/Electronics/Devicesandequipments-Books.html> 3
3. <http://nptel.ac.in/courses/108102095/>

### III SEMESTER

#### Circuit Theory and Analysis Course Code: 20EC310

1. <https://nptel.ac.in/courses/108102042/3>
2. <https://nptel.ac.in/courses/117106108>
3. <https://play.google.com/store/apps/details?id=com.education.npteleee&hl=en>

#### Sensors and Actuators Course Code: 20EC320

1. <https://nptel.ac.in/courses/108/108/108108147/>
2. <https://www.coursera.org/lecture/interface-with-arduino/lecture-2-1-actuators-uNCa4>

#### Computer Communication Network

#### Analog Electronic Circuits Course Code: 20EC330

1. <http://www.freebookcentre.net/Electronics/Analog-Circuits-Books.html>
2. Video Lecture: <http://nptel.ac.in/courses/108102095/CMOS VLSI>

#### Communication System-I Course Code: 20EC350

1. <http://www.mgcub.ac.in/pdf/material/202004290051377727b35713.pdf>
2. <http://www.scribd.com/document/438513272/sanjay-sharma-analog-and-digital-communication-pdf-download-pdf>
3. <https://oiipdf.com> › communication-systems-analog-and-digital



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## Universal Human Values Course Code: 20HU311

1. <https://onlineethics.org/>

## IV SEMESTER

### Linear Integrated Circuits Course Code: 20EC410

1. <https://docs.google.com/file/d/0B21HoBq6u9TsbG5WdjNZeGwtMWs/preview>
2. <http://nptel.ac.in/courses/108106068/>

### Microcontrollers and Embedded system Course Code: 20EC420

1. <http://infocenter.arm.com/help/topic/com.arm.doc>
2. <http://www.keil.com>
3. <https://swayam.gov.in/>

### Signals and Systems Course Code: 20EC430

1. <https://nptel.ac.in/courses/1171040741>.
2. <https://ocw.mit.edu/resources/res-6-007-signals-and-systems-spring-2011/lecture-notes/>
3. NPTEL lecture Video on Signals and Systems by Prof. S.C.Dutta Roy,  
<http://www.satishkashyap.com/2012/04/iit-video-lectures-on-signals-and.html>
4. NPTEL lecture Video on Signals and Systems by Prof. T.K. Basu, IIT Kharagpur.  
<http://www.nptel.ac.in/courses/108105065/>

### Communication Systems-II Course Code: 20EC440

1. <https://oiipdf.com/communication-systems-analog-and-digital>
2. <https://books.askvenkat.org/analog-communication-textbook-sanjay-sharma-free-download/>
3. [https://jntukucen.ac.in/ebook\\_files/156.pdf](https://jntukucen.ac.in/ebook_files/156.pdf)

### Engineering Electromagnetics Course Code: 20EC450

1. <http://nptel.ac.in/courses/108106073>

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2. <http://nptel.ac.in/courses/117103065>

3. <http://ocw.mit.edu/OcwWeb/Electrical-Engineering-and-Computer-Science/6-632Electromagnetic-Wave-TheorySpring2003/CourseHome/Index.html>

4. <http://www.plasma.uu.se/CED/Book>

## Microcontrollers and Embedded system Lab Course Code: 20EC48L

1. <http://infocenter.arm.com/help/topic/com.arm.doc>

2. <http://www.keil.com>

## V semester

### Computer Communication Networks

<https://youtube.com/playlist?list=PLFkKAMLbnTTtZEQHO2iE7CMRdFv7m1LXG>

### CMOS VLSI Design

1. <https://youtube.com/playlist?list=PLFkKAMLbnTTs4V-p9oXGGB7MxtJcPu4X>
2. <https://classroom.google.com/c/MzE3NTE4NjgxMTk5/m/MzQyODM4MjY2OTg5/details>
3. <https://classroom.google.com/c/MTM5Mjg2OTc1MTI4/p/MTYzMzQzNDgzNTU0/details>

## 20EC560 Control System

<https://sites.google.com/view/drspk/ec530controlsistemas?authuser=0>

## Robotics and Computer Vision

EC653 2019/ EC661 2020

<https://sites.google.com/view/drspk/robotics-and-computer-vision?authuser=0>

## 20EC560 Data Structures and Algorithms

1. [www.nptelvideos.in/2012/11/data-structures-and-algorithms.html](http://www.nptelvideos.in/2012/11/data-structures-and-algorithms.html)



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2. <https://www.geeksforgeeks.org/list-cpp-stl/>

3. [http://www.nptelvideos.com/computer\\_science/datastructures\\_algorithms.php](http://www.nptelvideos.com/computer_science/datastructures_algorithms.php)

## EC510 Linear Algebra and Applications

1. [https://onlinecourses.nptel.ac.in/noc18\\_ma16](https://onlinecourses.nptel.ac.in/noc18_ma16)
2. <https://nptel.ac.in/courses/111106051/>
3. [https://onlinecourses.nptel.ac.in/noc19\\_ma06/preview](https://onlinecourses.nptel.ac.in/noc19_ma06/preview)
4. [https://onlinecourses.nptel.ac.in/noc17\\_ma04/preview](https://onlinecourses.nptel.ac.in/noc17_ma04/preview)

## VI SEMESTER

### 20EC610 Information Theory and Coding

1. <https://nptel.ac.in/courses/117101053>
2. <https://nptel.ac.in/courses/108102117>

### Course Code: 20EC620 Computer Networks

1. <https://nptel.ac.in/courses/10610508>

### 20EC630 CMOS VLSI Circuits

1. <https://youtu.be/Gv5fESGW2Ms?list=PLNhFkFk6qEgLxC8XgE38cYNgI1wldYxXZ>
2. <https://youtu.be/IRpt1fCHd8Y?list=PLCmoXVuSEVHIEJi3SwdyJ4EICffuyqpij>
3. <https://youtu.be/o9vEnzLL-1Y?list=PLojsqdbIzJGQtub91c4fF-TcCdzVYAInM>

### 20EC641 Robotics and Computer Vision

1. <https://petercorke.com/>
2. <http://www.roboanalyzer.com/>
3. <https://nptel.ac.in/courses/107106090>
4. <https://www.youtube.com/channel/UCiK0J5wtnyX2jP-AiGbdhjg>



## EC652 Java Programming

1. <http://nptel.ac.in/courses/106106147/3>
2. [https://onlinecourses.nptel.ac.in/noc19\\_cs07/preview](https://onlinecourses.nptel.ac.in/noc19_cs07/preview)
3. <https://nptel.ac.in/courses/106105084/28>
4. <https://fr.coursera.org/lecture/distributed-programming-in-java/2-1-introduction-to-sockets-XiZXU>

## *VII Semester*

### 20EC721 Speech Processing using Deep

1. <http://www.digimat.in/nptel/courses/video/117105145/L37.html>
2. <https://nptel.ac.in/courses/106106184>

### 20EC722 Embedded Systems

1. <https://nptel.ac.in/courses/108102045/>
2. <https://nptel.ac.in/courses/106105193/>
3. <https://nptel.ac.in/courses/106105159/>
4. <https://www.youtube.com/watch?v=JO4AEkOVF2M&list=PLrjkTql3jnmlZMoUb1xMCp0HgXvJ7ocx/>
5. <https://www.coursera.org/learn/introduction-embedded-systems>

### 20EC724 Quantum Computing and Communication

1. <https://youtu.be/xnmpWfQKPSE?list=PLo4DhXMUkdvU9rZvEQYLdly5dABHvIzuD>
2. <https://youtu.be/Vzh5guYUyvM?list=PLq-Gm0yRYwThGmlypvSFQ-kT2rPaXKAZ5>



## 20EC725 Biomedical Signal Processing

1. [https://onlinecourses.nptel.ac.in/noc20\\_ee41/preview](https://onlinecourses.nptel.ac.in/noc20_ee41/preview)
2. <https://www.coursera.org/lecture/interface-with-arduino/lecture-2-1-actuators-uNCa4>

## 20EC726 Protocol Engineering

1. <https://archive.nptel.ac.in/courses/106/105/106105183/>

## 20EC731 Nanoscience and Technology

1. <https://web.pdx.edu/~pmoeck/phy381/intro-nanotech.pdf>
2. [https://onlinecourses.nptel.ac.in/noc19\\_mm21/preview](https://onlinecourses.nptel.ac.in/noc19_mm21/preview)
3. <https://nptel.ac.in/courses/118104008>

## 20EC732 Statistical Signal Detection and Processing

1. NPTEL Video lecture by Prof S Mukhyopadhyay, IIT Kharagpur
2. <https://www.youtube.com/watch?v=Ru3FhYbjcFs&list=PL4FB9652402002C76>

## 20EC733 Cryptography and Network Security

1. <https://nptel.ac.in/syllabus/106105031/>
2. <https://nptel.ac.in/courses/106105162/>
3. <https://www.youtube.com/watch?v=p6w9RZ5PNho>

## 20EC734 Wavelet and compression techniques

1. <https://www.youtube.com/watch?v=c4s5X-Bm2Wc&list=PLUYV0LEDKN9CQ-HT33K8ED6-f2tlxcN0Q>
2. <https://www.youtube.com/watch?v=c4s5X-Bm2Wc&list=PLUYV0LEDKN9CQ-HT33K8ED6-f2tlxcN0Q>
3. <https://nptel.ac.in/courses/108101093>
4. <https://nptel.ac.in/courses/117105135>



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## 20EC735 Advanced computer Networks

1. <https://www.youtube.com/watch?v=f5ksLu5Xjnk&list=PLG9aCp4uE-s3Mmbn4q5J87OriIN3CuFDS>

## 20EC736 Deep Learning for computer vision

1. <https://nptel.ac.in/courses/106106224>
2. <https://nptel.ac.in/courses/106105215>

## VIII SEMESTER

### 20EC811 Automotive Electronics

1. <https://www.youtube.com/playlist?list=PLCBA3EF828DFE7B0E>
2. <https://www.youtube.com/watch?v=STDICdZnlsw&list=PLE06CAA834360BB39>

### 20EC812 Cloud Computing

1. <https://nptel.ac.in/courses/106105167>

### 20EC813 Digital Compression Techniques

1. <https://www.youtube.com/watch?v=5wRPin4oxCo>
2. <https://www.youtube.com/watch?v=rC16fhvXZOo>

### 20EC814 Advanced Embedded System

1. <https://nptel.ac.in/courses/108102045/>
2. <https://nptel.ac.in/courses/106105193/>

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3. <https://nptel.ac.in/courses/106105159/>
- <https://www.udemy.com/topic/embedded-systems/>
5. <https://www.coursera.org/courses?query=embedded%20systems>
6. <https://www.classcentral.com/tag/embedded-systems>
7. <https://www.edx.org/learn/embedded-systems>
8. <https://www.online.colostate.edu/certificates/embedded-systems-certificate/>
9. <https://www.udacity.com/course/embedded-systems--ud169>

## 20EC815 Operations Research

1. <https://nptel.ac.in/courses/112106134/>
2. <https://youtu.be/IRpt1fCHd8Y?list=PLCmoXVuSEVHIEJi3SwdyJ4EICffuyqpk>
3. <https://youtu.be/o9vEnzLL-1Y?list=PLojsqdbIzJGQtub91c4fF-TcCdzVYAInM>