

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

OPEN EDUCATIONAL RESOURCES (OER)

Sr. No.	Faculty name	Course/ Course code	You-Tube Channel Link and / or You-Tube Link/ Google drive link
1.	Dr. Megha Borse	BEEE II (ES 1201) FY BTech	<p>You Tube Channel Link: https://www.youtube.com/channel/UCzpb0wxd6VyLZqUwQj99G8g</p> <p>You-Tube Link for the topic: 1. Half Adder, Full Adder:- https://youtu.be/bjDL5f3GkVw 2. MUX (2:1, 4:1) & DeMux (1:2, 1:4):- https://youtu.be/YgJ67PS5SIE 3. Flip Flops:- https://youtu.be/Ay2mfdE6lWg 4. Counters:- https://youtu.be/8hbbVHcHuR4 5. OPAMP Derivation for Amplifier :- https://www.youtube.com/watch?v=sw7oVKXQ7qQ 6. OPAMP application as Summing & Difference Amplifier:- https://www.youtube.com/watch?v=vxsq4Us1vEE 7. OPAMP application as Integrator & Differentiator:- https://www.youtube.com/watch?v=bLGNpc1517M 8. OPAMP application as Comparator:- https://www.youtube.com/watch?v=rpZk6nAZLgg 9. OPAMP Problems:- https://youtu.be/gRfLmv4XsZ4 10. SCR:- https://youtu.be/EfgnpiHwIVs 11. SCR: - Two transistor analogy of SCR & Commutation:- https://youtu.be/XIKYqKi0PVc 12. Power MOSFET (n channel Enhancement):- https://youtu.be/o0jfGdk4P20 13. Power MOSFET (p channel Enhancement):- https://youtu.be/Ue7q_TzTORI</p>
2.	Dr. Megha Borse	BEEE Lab II (ES 1205) FY BTech	<p>You-Tube Link for the topic: 1. Performance analysis of L-C-R series circuit:-https://youtu.be/cLQvIr0i7pc 2. Load test on single phase transformer for determination of voltage regulation:- https://youtu.be/eoLRu-Epb98 3. Performance analysis of 3 phase AC circuit:- https://youtu.be/P9iDtpU_XR4 4. Analysis of summing amplifier and difference amplifier using OPAMP:- https://youtu.be/MFaWbqN9yeY 5. Design and implementation of half adder and full adder circuits.:- https://youtu.be/WglPmQO5ma8 6. Illustrate effect of variation of displacement on output voltage of LVDT:- https://youtu.be/FeoKBgf_wcA 7. Verification of static characteristics of SCR:- https://youtu.be/xs2bRjWbvus 8. Soldering Techniques:- https://youtu.be/_9y1eKx7oI4</p>
	Dr. Megha Borse	Network Theory (EC 2102) SY BTech	<p>You Tube Channel link:- https://www.youtube.com/channel/UCzpb0wxd6VyLZqUwQj99G8g</p> <p>You-Tube Link for the topic: 1. Network Theory Basics (Part 1):- https://youtu.be/715KIjy26Lw 2. Network Theory Basics (Part 2):- https://youtu.be/uCYw1gdOjGs 3. Kirchhoff's Voltage Law:- https://youtu.be/sn1yhuNkqhc 4. Kirchhoff's Current Law:- https://youtu.be/faewTYcXVRI 5. Superposition Theorem:- https://youtu.be/MPeMTTxJ6hI 6. Maximum Power Transfer Theorem:- https://youtu.be/85v_-JkBlbw 7. Source Transformation & Source Shifting:- https://youtu.be/2-GwR3wDBVA 8. Norton's Theorem:- Norton's Theorem:- https://youtu.be/XSjXoOnPImc 9. Thevenin's Theorem:- https://youtu.be/plQ3Qq8MLHg</p>

			<p>10. Network Theory Practice Problems (Part 1):- https://youtu.be/z_NYLpi-ORY</p> <p>11. Network Theory Practice Problems (Part 2):- https://youtu.be/5ugnPcPu5h4</p> <p>12. Resonance Lecture 1 (Series Resonance):- https://youtu.be/fuM6OMS2P3o</p> <p>13. Resonance Lecture 2 (Series Resonance):- https://youtu.be/wAP1rQjcPTQ</p> <p>14. Resonance Lecture 3 (Series Resonance):- https://youtu.be/u_MIVRFQ21I</p> <p>15. Parallel Resonance (Part 1):- https://youtu.be/vl4T43fj104</p> <p>16. Parallel Resonance (Part 2):- https://youtu.be/9E6ev4dJDTU</p> <p>17. Parallel Resonance (Part 3):- https://youtu.be/d2MUkZgi_Ho</p> <p>18. Transient Response of RLC Circuit Lecture 1:- https://youtu.be/EXk6FtuiabY</p> <p>19. Transient Response of RLC Circuit Lecture 2:- https://youtu.be/iRT0YmDUF9Y</p> <p>20. Transient Response of RLC Circuit Lecture 3:- https://youtu.be/RQHz-P8BwRU</p> <p>21. Transient Response of RLC Circuit Lecture 4:- https://youtu.be/6a5geBC6FwA</p> <p>22. Transient Response of RLC Circuit Lecture 5:- https://youtu.be/ySioI4v9QIO</p> <p>23. Laplace Transform & Its Applications Lecture 6:- https://youtu.be/d4XAHBY4teA</p> <p>24. Transient Response of RLC Circuit using Laplace Transform [Lecture 7]:- https://youtu.be/Ziz-BJfHXLs</p> <p>25. 2 Port Network Parameters Lecture -1 (Z Parameters):- https://youtu.be/9kzbwRun10w</p> <p>26. 2 Port Network Parameters Lecture -2 (Y Parameters):- https://youtu.be/mN_tvNIHqrA</p> <p>27. 2 Port Network Parameters Lecture -3 (h Parameters):- https://youtu.be/u5pcW_65EXw</p> <p>28. 2 Port Network Parameters Lecture -4 (ABCD or Transmission Parameters):- https://youtu.be/8eXfIDnve_E</p> <p>29. 2 Port Network Parameters Lecture -5 (Inverse Transmission</p>
3.	Dr. Ashwini Deshpande	Digital Signal processing (EC3201) TYBTech	<p>You-Tube Channel Link: https://www.youtube.com/channel/UCnAjomNk7Ggy2iXH2vYcdjA</p> <p>You-Tube Link for the topic:</p> <p>1. Introduction to FFT https://www.youtube.com/watch?v=j1NT1GHDx4M</p> <p>2. FFT Radix and Decimation concepts-DIT https://www.youtube.com/watch?v=NegWtcqQv1Q</p> <p>3. DIT FFT- 1st Stage Decimation https://www.youtube.com/watch?v=O_Mw2Kj1RMQ</p> <p>4. DIT-FFT 2nd Stage Decimation https://www.youtube.com/watch?v=uyFnBjH-kag</p> <p>5. DIT-FFT 3rd Stage Decimation https://www.youtube.com/watch?v=b98hxBxvooc</p> <p>6. FFT Computational Complexity https://www.youtube.com/watch?v=znA-F8YVhZc</p> <p>7. DIT-FFT Algorithm: Memory requirement and Bit reversal https://www.youtube.com/watch?v=vufudAX12VQ</p> <p>8.FIR_1_Analog Vs Digital Filter https://youtu.be/SQkpCGji7CA</p> <p>9.FIR_2_LTI System & Applications https://youtu.be/h464vOnFiTI</p> <p>10.FIR_3_FIR & IIR Comparison https://youtu.be/AAjgW3HRtaM</p> <p>11.FIR_4_Ideal Vs Practical filter https://youtu.be/u95Zf2KbpC8</p> <p>12.FIR_5_Linear Phase Condition-Phase & Group delay https://youtu.be/eR6R2ohVNgI</p> <p>13.FIR_6_FIR Types & frequency response</p>

			<p>https://youtu.be/HuOV-A1Fgu4 14.FIR_7_Location of zeros https://youtu.be/AxiS1Z8MbJY 15.FIR_8_Ideal filters-h(n) https://youtu.be/r-SJ31Hqu74 16.FIR_9_FIR design steps https://youtu.be/xliUHUzxfTo 17. FIR_10_Gibbs Phenomenon https://youtu.be/92Qm39LgXeg 18. FIR_11_Window functions https://youtu.be/A11Bexklw_Q</p> <p>You-Tube Link for the topic: IIR filter structures: https://www.youtube.com/watch?v=G7R0SLgGZfM&t</p>
4.	Dr. Ashwini Deshpande	Demonstration On Latex Project Report Writing	https://www.youtube.com/watch?v=6f3q6GY2M_c
5.	Mr. Ganesh R. Padalkar	Analog Communication	<p>You-Tube Channel Link: https://studio.youtube.com/channel/UC-HWU9QD91_91q37kPKGdbA/videos/upload?filter=%5B%5D&sort=%7B%22columnType%22%3A%22date%22%2C%22sortOrder%22%3A%22DESCENDING%22%7D</p> <p>Review lecture on AM and FM Part 1 https://youtu.be/uxjuJ4x0er Review lecture on AM and FM Part 2 https://youtu.be/G-cIq-lG1-8 FM generation methods Part 1 https://youtu.be/9WiN-Q1mobg FM generation methods Part 2 https://youtu.be/Agj-UBH2_y0 FM Receiver Part 1 https://youtu.be/u-_MaGTODAU FM Receiver Part 2 https://youtu.be/1AYNwOG_yi8 FM Receiver Part 3 https://youtu.be/TckVS2tjrjM Noise Part 1 https://youtu.be/Qty6MfgavUac Noise Part 2 https://youtu.be/1F2jv4LG0wY</p>
6.	Dr. Seema Rajput	Integrated Circuits and Applications (EC2203) SY BTech	<p>You-Tube Channel Link : https://www.youtube.com/channel/UCAw7BtTm8adc_Z63uS5f1AA</p> <p>You-Tube Link for the topic: 1. Square Wave Generation: https://youtu.be/eUbJxhbazZ0</p>
7.	Mrs. Anamika Kumari	Broadband Communication System (EC4201) Final Year B.Tech	<p>You-Tube Channel Link : https://youtube.com/channel/UCfmy6Dhgfaso30bo-7z5gLQ</p> <p>You-Tube Link for the topic :</p> <ol style="list-style-type: none"> Introduction to Satellite Communication https://youtu.be/BIOubYJQPIs Orbital Mechanics https://youtu.be/lyZekrR245g Look angle determination, Orbital determination https://youtu.be/dwccsh_aRiM Launchers and Launch Vehicles https://youtu.be/bCwA_CP1kSM Satellite Subsystems : Attitude and control systems (AOCS) https://youtu.be/FRcdp5BoXXI Telemetry, Tracking, Command and Monitoring, Power systems https://youtu.be/rVdY5hztrZA

			<p>7. Communication subsystems https://youtu.be/0wYYiQ_l3Z4</p> <p>8. Satellite antennas https://youtu.be/4QuGWwOrRvU</p> <p>9. Satellite Link Design :Introduction, System Design Examples Basic transmission Theory https://youtu.be/eOifU8JlpTw</p> <p>10. System Noise Temperature and G/T Ratio https://youtu.be/WASp_SP8SSA</p> <p>11. Satellite Link Design : Design of Downlink https://youtu.be/e9nPkpsk9pI</p>
8.	Mrs. Anamika Kumari	Electromagnetic Theory (EC3103) TY B.Tech	<p>You Tube Channel Link: https://youtube.com/channel/UCfmy6Dhgfaso30bo-7z5gLQ</p> <p>You-Tube Link for the topic:</p> <ol style="list-style-type: none"> Importance of Electromagnetic Theory course https://youtu.be/1Mp-yIw45GY Differential length, area, volume in Cartesian, cylindrical and spherical coordinates https://youtu.be/X8HOIdYYTM4 Solved Question on Electric field due to Infinite line charge_EMT https://youtu.be/l6lirmxsyqw Boundary condition for Electric Field_Electromagnetic Theory https://youtu.be/UwHWtTrEm8I
9.	Mrs. Rupali Pawar	Control Systems (EC 3203) TY B.Tech	<p>You-Tube Channel Link : https://youtube.com/channel/UCHkoSJie2LTfFiRPSfFbdJQ</p> <p>You-Tube Link for the topic :</p> <ol style="list-style-type: none"> Bode Plot: https://youtu.be/GQLcgKFmOV8 Polar Plot: https://youtu.be/YSSiPjnG9bI Nyquist Plot: https://youtu.be/PPMCxKmFR5M
10	Mrs. Anamika Kumari	GATE Preparation	<p>GATE Exam & it's Preparation along with Engineering https://youtu.be/wSonn57SPjE</p> <p>GATE EC (Electronics and communication) Pattern_cut off_ syllabus https://youtu.be/CJ56k3jQv9s</p>

11.	Dr. Sharada Ohatkar	Digital Communication (EC 3101) TYBTech	<p>1.Introduction to Digital Communication, Comparison between analog and digital communication https://drive.google.com/file/d/1RBM0dPvZf3KpQYz_sPJBgRbkiuqlg-YJ/view?usp=sharing</p> <p>2.Block diagram of digital communication system, Sampling Process, https://drive.google.com/file/d/1B1WsTDb-fvmpbRt96znvTVQXadiflRpo/view?usp=sharing</p> <p>3. PCM Generation and Reconstruction, https://drive.google.com/file/d/1FFigSUm87eTFH16NbIEK-plT6mNIffPZ/view?usp=sharing</p> <p>4. Quantization Noise, Non-uniform Quantization and Companding, https://drive.google.com/file/d/1Qj0tpstCi0-fFgesxJqKbYLfZVVsm14/view?usp=sharing</p> <p>5.Predictive coding: Differential Pulse Code Modulation, Transmitter and receiver block diagram, https://drive.google.com/file/d/10SIJo_dwzzFxVSB_eoMY1IFUV4jizOi0r/view?usp=sharing</p> <p><u>6. Delta modulation - Waveform, Transmitter and receiver block diagram, SNR derivation.</u> https://drive.google.com/file/d/1GC2uC7Yyasb_TfmRpFBSnpB_9xA1R7NN/view?usp=sharing</p> <p>7. Adaptive delta modulation ADM, Delta Sigma Modulation, Comparison of Voice encoding methods https://drive.google.com/file/d/111WUesJ-XVrKkGzKjDYOFaSg_ZXUcpt/view?usp=sharing</p> <p><u>8. BASEBAND DIGITAL TRANSMISION- Digital Multiplexing.</u> https://drive.google.com/file/d/1zTaKD4HItZJ4LIAf1RbFyrtPGedzX8yt/view?usp=sharing</p> <p><u>9.LINE CODE: Types of Line codes, Advantage, Disadvantage and application's</u> https://drive.google.com/file/d/1jx4abQULUYCnnb3I6Vf6m1326A4-ffWf/view?usp=sharing</p> <p>10.Derivation - Power spectral density of Line Codes, Comparison of Line codes https://drive.google.com/file/d/1MtagZuMktkZjOa1v1QajNWptm8vrVCXW/view?usp=sharing</p> <p>11.Synchronization – Bit Synchronization (Zero crosshttps://drive.google.com/file/d/1jx4abQULUYCnnb3I6Vf6m1326A4-ffWf/view?usp=sharinging detector and early late), Frame synchronization, Scrambling https://drive.google.com/file/d/1QSVWcNqdBuPX8uZarozfBRHGYxeipSn/view?usp=sharing</p> <p>12.Unscrambling, Intersymbol Interference, Raised cosine pulse, Equalization https://drive.google.com/file/d/1cP1jt3_G0QzAg5iCnbumwvofckATt9s6/view?usp=sharing</p> <p>13.Eye diagram. UNIT III: Random Processes, Introduction, Definition, Statistical measures https://drive.google.com/file/d/1bVFngXUy4i3PTI6T1W7KYwWUSW3KWAt9/view?usp=sharing https://drive.google.com/file/d/11qvBCf8hBYcfyexgQgwajkG-L6Epl07Y/view?usp=sharing</p> <p>14.Classification of Random process: Stationary, Non-Stationary, Wide sense stationary, Statistical measures Mean, correlation, variance, Example on WSS https://drive.google.com/file/d/1ZZRKdhin06ndzg0ttbuYbY2We35GGlb2/view?usp=sharing</p>
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			<p>15. Ergodic process, Transmission of a RP through a Linear Time-Invariant Filter https://drive.google.com/file/d/1kmo9mSXsmeVstTuBBAcgDmUoaQStoWs0/view?usp=sharing</p> <p>16. Power Spectral Density, Gaussian process and Central Limit Theorem https://drive.google.com/file/d/1gEGHMPyiWOHVMHbh4bs4ytl-D9Vu5pWK/view?usp=sharing</p> <p>17. UNIT IV: Bandpass digital techniques: ASK, FSK, PSK waveforms, advantages, disadvantages and applications https://drive.google.com/file/d/19rLtAR-dn2rNh-duyfjVU6zE62lwJkzj/view?usp=sharing</p> <p>18. BPSK: Block diagram transmitter and receiver, Spectrum of BPSK, BW, Geometric representation Euclidean distance https://drive.google.com/file/d/10-Yntfb2GyoBjcAyum1SBYMVz3JSBhmG/view?usp=sharing</p> <p>19. DPSK - Transmitter and receiver block diagram, Waveforms, advantages and disadvantages. QPSK - Transmitter block diagram - waveforms cont.... https://drive.google.com/file/d/1RGi7NmGbAUB9MJbV6igk1AESRn2vAKjS/view?usp=sharing</p> <p><u>10. Quadrature Phase Shift Keying: Waveforms, Signal space representation, Euclidean distance, bandwidth, Receiver diagram</u> https://drive.google.com/file/d/1X5T5vfVwmAW9uNecsbVVLsnlaxHUsgik/view?usp=sharing</p> <p><u>21. M ary PSK : Waveform, expression, Geometrical representation of M-ary PSK signals, Bandwidth, Euclidean distance</u> https://drive.google.com/file/d/1ckQA7H-fMqCfXh2bTv89U3ayt1m-cimj/view?usp=sharing</p> <p><u>22. Mary PSK - Transmitter and Receiver, Quadrature Amplitude Shift Keying (QASK / QAM), Applications, Waveform, Signal space representation Euclidean distance</u> https://drive.google.com/file/d/1ifE1osT5qzgyP0Kx_c9I296shS3OtG1C/view?usp=sharing</p> <p><u>23. QASK Transmitter and Receiver, Binary Frequency Shift Keying (BFSK), Waveform, Transmitter, Receiver, Spectrum -Bandwidth, Euclidean distance.</u> https://drive.google.com/file/d/1EGTAXnLTNkCXovTJoUZwP97RouQjbHZJ/view?usp=sharing</p> <p><u>24. BFSK, Mary FSK, Block diagram of transmitter and receiver, BW, d. Analysis of Mary PSK, Mary FSK and Mary QAM.</u> https://drive.google.com/file/d/1xipOVcCRt0LgfvwRkZCcXF3dyaC-56rT/view?usp=sharing</p> <p><u>25. UNIT V: Optimal Reception of digital signal – Applications of Matched filter, MF in digital communication, A Baseband Signal Receiver Derivation of SNR.</u> https://drive.google.com/file/d/1NhS6nEllmoY-i3C2UxvzTtVzdcygsWCs/view?usp=sharing</p> <p><u>26. A Baseband Signal Receiver Derivation of SNR, Probability of error, derivation of Pe.</u> https://drive.google.com/file/d/1YtIV2uebicXAyFvjSOBCY1VnIN5-Gfb/view?usp=sharing</p> <p><u>27. Probability of error, Optimal Receiver design: Optimum filter.</u> https://drive.google.com/file/d/1pgVV7JnqWwEhhl-8HrnNzX_mSTkPxp0M/view?usp=sharing</p>
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			<p><u>28. Calculation of the optimum- filter Transfer Function H(f), Optimum Filter realization using MATCHED FILTER</u> <u>Optimum Filter realization using MATCHED FILTER,</u> https://drive.google.com/file/d/1hlHkjff_PdXWgnCYlg3llyGiF-PoAddc/view?usp=sharing</p> <p><u>28. Probability of Error of the Matched Filter, Matched filter for rectangular pulse</u> https://drive.google.com/file/d/1EVltAioYuw_TZYmUvtvi1WmATwHgaRGv4/view?usp=sharing</p> <p><u>29. Error Probability of Shifting keys: PSK, Imperfect Phase Synchronization in PSK, Imperfect Bit Synchro.</u> https://drive.google.com/file/d/12Efx_RHg4XJ-NuFj6CYtFw3tkS5NPe5a/view?usp=sharing</p> <p><u>30. Error probability of BFSK</u> https://drive.google.com/file/d/1LxXq8eXYciHRhiPNyVGiB7VCZ_w6i2Xm/view?usp=sharing</p> <p><u>31. UNIT VI: Spread Spectrum Techniques: Introduction, Need, Applications, definition</u> https://drive.google.com/file/d/1xptdQ6symMLTgalzN4TDauX7QFsuI-NM/view?usp=sharing</p> <p><u>32. PN Sequence. Properties of PN sequence, Balance, Run, and Autocorrelation</u> https://drive.google.com/file/d/1WUy_gltNxjh0uKn_m3iN_gnKr1i-t2J1/view?usp=sharing</p> <p><u>33. Notion of spread spectrum, Types of Spread spectrum, DSSS, Advantage and disadvantages, Near far problem</u> https://drive.google.com/file/d/1tk5H7d0Xf-TVuGGVtmk8vctSYy1MWR-5/view?usp=sharing</p> <p><u>34. FHSS, Slow and Fast, Example. Problems on DSSS. IEEE 802.11 Standards</u> https://drive.google.com/file/d/1LbhdN1zDtbeSG3b6tNmMWZFe1E1vCmI/view?usp=sharing</p>
12.	Dr. Anita Patil	Power Electronics (PEEC-3201) T.Y. B.Tech	<p>1. Buck-Boost Converter- https://drive.google.com/file/d/1ShQt3j5r1bIXoBgk3L5ry1rRtzZCu73t/view?usp=sharing</p> <p>2. Chopper- https://drive.google.com/file/d/1V-d-bhuHHI0Yu5p9rYVYabpuhwQDCIgy/view?usp=sharing</p> <p>3. Inverter- https://drive.google.com/file/d/195HBwcGE89uDR9KPkwHKSEXCFsj1VG8O/view?usp=sharing</p> <p>Also find the screenshots of Google classroom for the communication with the student.</p> <p>4. AC Voltage Regulator- https://drive.google.com/file/d/15aK0NBKtJBjMLnrCjC0w1X16I46e2kn/view?usp=sharing</p>