

Lecture No.	Title	Speaker	Video Lecture Link	Views
1	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=qUEbxTkPIWI&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/1	4095
2	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=y2p7LpXAao&index=2&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/2	1038
3	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=sz0xo7XhK9I&index=3&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/3	660
4	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=upn8HF53npQ&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv&index=4 & http://www.nptel.ac.in/courses/118104008/4	582
5	Elntroduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=40qSpNBOKQo&index=5&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/5	467
6	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=DH4P8xmzf_8&index=6&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/6	256
7	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=FwHbtPkZcbw&index=7&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/7	251
8	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=7dtu1HzxD0g&index=8&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZ XUjv & http://www.nptel.ac.in/courses/118104008/8	420

9	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=Lvg4FZK2G2M&index=9&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/9	https://nccr.iitm.ac.in/2011.pdf	248
10	Introduction to Nanomaterials(C1)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=ZqTQoFifpr4&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=10 & http://www.nptel.ac.in/courses/118104008/10	http://nptel.ac.in/courses/103103033/module9/lecture1.pdf	321
11	Surface Effects and Physical properties of Nanomaterials (c2)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=PWEJvFOIBco&index=11&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/11	http://info.tuwien.ac.at/werkstoffkunde/VO_Biomaterials/meyers_chem_etal_progmatsci_copr_6.0a.pdf	398
12	Surface Effects and Physical properties of Nanomaterials (c2)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=cwZBny7GQew&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=12 & http://www.nptel.ac.in/courses/118104008/12	http://medind.nic.in/taa/t02/i2/taaat02i2p20.pdf	183
13	Surface Effects and Physical properties of Nanomaterials (c2)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=7bugYcpVxjM&index=13&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://freevideolectures.com/Course/3086/Introduction-to-Biomaterials/13	http://ltp.epfl.ch/files/content/sites/ltp/files/shared/Teaching/Master/03-IntroductionToNanomaterials/LectureSupportAll.pdf	242
14	Surface Effects and Physical properties of Nanomaterials (c2)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=3OP8dvCnoFc&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=14 & http://www.nptel.ac.in/courses/118104008/14	http://textofvideo.nptel.iitm.ac.in/118104008/lec15.pdf	219
15	Surface Effects and Physical properties of Nanomaterials (c2) Defect structure and mechanical behavior of Nanomaterials (c3)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=qKBnLqFn_X8&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=15 & http://www.nptel.ac.in/courses/118104008/15	http://textofvideo.nptel.iitm.ac.in/118104008/lec15.pdf	436
16	Defect structure and mechanical behavior of Nanomaterials (c3)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=Mj9Vc6KMipl&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=16 & http://www.nptel.ac.in/courses/118104008/16	http://www.hydrogen.lt/mokymai/seminarai/nanomaterials.pdf	651

17	Defect structure and mechanical behavior of Nanomaterials (c3)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=XVN54sYxhhM&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=17 & http://www.nptel.ac.in/courses/118104008/17	http://www.hydrogen.lt/mokymai/seminarai/nanomaterials.pdf	305
18	Defect structure and mechanical behavior of Nanomaterials (c3)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=bwZw96c743A&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=18 & http://www.nptel.ac.in/courses/118104008/18	http://www.hydrogen.lt/mokymai/seminarai/nanomaterials.pdf	371
19	Defect structure and mechanical behavior of Nanomaterials (c3)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=Q3nj5rMrN9c&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=19 & http://www.nptel.ac.in/courses/118104008/19	http://www.hydrogen.lt/mokymai/seminarai/nanomaterials.pdf	321
20	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=kyabpY9rtBI&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=20 & http://www.nptel.ac.in/courses/118104008/20	http://textofvideo.nptel.iitm.ac.in/118104008/lec20.pdf	136
21	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=rEKyiwDLnTw&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=21 & http://www.nptel.ac.in/courses/118104008/21	http://textofvideo.nptel.iitm.ac.in/118104008/lec20.pdf	292
22	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=xdWHlyizKbE&index=22&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/22	http://textofvideo.nptel.iitm.ac.in/118104008/lec20.pdf	378
23	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=TQ1zu4bgxO8&index=23&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/23	http://textofvideo.nptel.iitm.ac.in/118104008/lec20.pdf	211
24	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=ksUhHx44GQ0&index=24&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/24	http://textofvideo.nptel.iitm.ac.in/118104008/lec20.pdf	564
25	Electrical, magnetic and optical properties of Nanomaterials (c4)	Prof. AnandhSubramaniam	https://www.youtube.com/watch?v=RvtlBh_-Rw&index=25&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/25	https://nccr.iitm.ac.in/2011.pdf	905

26	Atomic bonding	Dr. Kantesh Balani	https://www.youtube.com/watch?v=kkJrzZHGmLA&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=26 & http://www.nptel.ac.in/courses/118104008/26	http://www.ce.berkeley.edu/~paulmont/CE60New/atomic_bonds.pdf	207
27	Overview of nanostructure and Nanomaterials - characterizations and properties	Dr. Kantesh Balani	https://www.youtube.com/watch?v=YaoRYnGz5Aw&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=27 & http://www.nptel.ac.in/courses/118104008/27	http://home.iitk.ac.in/~anandh/MSE694/courseMSE694/Introduction to Nanomaterials3.pdf	238
28	Carbon nanostructures	Dr. Kantesh Balani	https://www.youtube.com/watch?v=kCTED1wLQBU&index=28&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/28	http://www.mse.ncsu.edu/CompMatSci/pdf/full4.pdf	307
29	Multi-Scale hierarchy	Dr. Kantesh Balani	https://www.youtube.com/watch?v=05tC_KvLOG4&index=29&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/29	http://www.math.ucla.edu/~lvese/PAPERS/TNV1.pdf	184
30	Self assembly	Dr. Kantesh Balani	https://www.youtube.com/watch?v=KXAEYdzG9U0&index=30&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/30	https://gmwgroup.harvard.edu/pubs/pdf/936.pdf	1467
31	Nanomaterials in nature: bone	Dr. Kantesh Balani	https://www.youtube.com/watch?v=6RKA9ClqWcM&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=31 & http://www.nptel.ac.in/courses/118104008/31	http://nanoyou.eu/attachments/499_EXPERIMENT%20A1_Teacher%20document%2014-18.pdf	303
32	Surface and interfaces	Dr. Kantesh Balani	https://www.youtube.com/watch?v=ZlFc_H2D35c&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=32 & http://www.nptel.ac.in/courses/118104008/32	http://hky.ninu.edu.cn/jpkc/wzattach/211908_933929.pdf	352
33	Non-wetting	Dr. Kantesh Balani	https://www.youtube.com/watch?v=D7Zu1-9kSUg&index=33&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/33	http://web.mit.edu/nnf/people/jbico/princeton.pdf	315
34	Nanomaterials science and Nanomanufacturing	Dr. Kantesh Balani	https://www.youtube.com/watch?v=rDJOzKRGJm8&index=34&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/34	http://www.floridaenergy.ufl.edu/wpcontent/uploads/UNIVERSITY-OF-SOUTH-FLORIDA1.pdf	830

35	Surface adsorption isotherms(Langmuir/bet)	Dr. Kantesh Balani	https://www.youtube.com/watch?v=nBjSS-ny-Gw&index=35&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/35	http://chem.colorado.edu/chem4581_91/images/stories/IsothermDerv.pdf	1728
36	Reciprocal lattice	Dr. Kantesh Balani	https://www.youtube.com/watch?v=cveCJM1ch38&index=36&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/36	http://www.physics.smu.edu/scalise/P5337fa11/notes/ch02/chapter2.pdf	1495
37	Transmission electron microscopy	Dr. Kantesh Balani	https://www.youtube.com/watch?v=TMWhici4sII&index=37&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/37	http://tpm.amc.anl.gov/Lectures/Zaluzec-1-Instrumentation.ppt.pdf	960
38	Transmission electron microscopy	Dr. Kantesh Balani	https://www.youtube.com/watch?v=w6DD-Yw4t60&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=38 & http://www.nptel.ac.in/courses/118104008/38	http://tpm.amc.anl.gov/Lectures/Zaluzec-1-Instrumentation.ppt.pdf	606
39	Auger electron spectroscopy	Dr. Kantesh Balani	https://www.youtube.com/watch?v=DWtkbZg_kfI&index=39&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/39	https://www.uio.no/studier/emner/matnat/fys/MENA3100/v13/undervisningsmateriale/aes_spyros.pdf	1754
40	X-Ray photoelectron spectroscopy(XPX)	Dr. Kantesh Balani	https://www.youtube.com/watch?v=rR7GwTqxFOE&index=40&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/40	http://mmrc.caltech.edu/SS_XPS/XPS_PPT/XPS_Slides.pdf	4471
41	EELS-electron energy loss spectroscopy	Dr. Kantesh Balani	https://www.youtube.com/watch?v=6vG1Gu4IN-E&index=41&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/41	http://bioimaging.dbi.udel.edu/sites/bioimaging.dbi.udel.edu/files/manuals/EELS%20Book%20by%20Egerton.pdf	856
42	Deformation behavior of nonmaterial's	Dr. Kantesh Balani	https://www.youtube.com/watch?v=ZJJzJq9Bmg&index=42&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/42	http://www.ichtj.waw.pl/ichtj/nukleon/back/full/vol51_2006/v51s1p019f.pdf	152

43	Fracture and creep	Dr. Kantesh Balani	https://www.youtube.com/watch?v=EazzyT0gU44&index=43&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/43	http://web.stevens.edu/e344/27_fall_2012/core/section_8/FL&O_8_failure.pdf	1561
44	Nanomechanics	Dr. Kantesh Balani	https://www.youtube.com/watch?v=-8HISU35vhY&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv&index=44 & http://www.nptel.ac.in/courses/118104008/44	http://www.ruf.rice.edu/~biy/Selected%20papers/04Encyclopedia_MNM.pdf	309
45	Nanotribology	Dr. Kantesh Balani	https://www.youtube.com/watch?v=HCPfzLH0zKA&index=45&list=PLbMVogVj5nJSl_2XmFjuRmvuAgCOZXUjv & http://www.nptel.ac.in/courses/118104008/45	http://home.ufam.edu.br/berti/nanomaterials/Nanotribology,%20and%20Nanomechanics,%20and%20Materials%20Characterization.pdf	246