

# Annexure–A

## COMPUTER ENGINEERING

### LIST OF ONLINE NPTEL/SWAYAM COURSES FOR FOURTH/SIXTH/EIGHTH SEMESTER (RC 19-20)

#### FOR THE ACADEMIC YEAR 2021-22 (EVEN SEMESTER)

Sr. No.	Course Id	Course Name (NPTEL Swayam Course)	SME Name	Institute	Duration	Credits	Link to Join
1	noc22-mg42	Principles of Management	Prof. Usha Lenka	IITR	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg42/preview">https://onlinecourses.nptel.ac.in/noc22_mg42/preview</a>
2	noc22-mg45	IE-Business	Prof. Mamata Jenamani	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg45/preview">https://onlinecourses.nptel.ac.in/noc22_mg45/preview</a>
3	noc22-me10	Computer Integrated Manufacturing	Prof. J. Ramkumar Prof. Amandeep Singh	IITK	12 weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_me10/preview">https://onlinecourses.nptel.ac.in/noc22_me10/preview</a>
4	noc22-ee66	Neural Science for Engineers	Prof. Vikas V	NIMHANS	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_ee66/preview">https://onlinecourses.nptel.ac.in/noc22_ee66/preview</a>
5	noc22-ge04	Fuzzy Logic and Neural Networks	Prof. Dilip Kumar Pratihari	IITKGP	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_ge04/preview">https://onlinecourses.nptel.ac.in/noc22_ge04/preview</a>

6	noc22-ee49	An Introduction to Information Theory	Prof. Adrish Banerjee	IITK	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_ee49/preview">https://onlinecourses.nptel.ac.in/noc22_ee49/preview</a>
7	noc22-ee61	Communication Networks	Prof. Goutam Das	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_ee61/preview">https://onlinecourses.nptel.ac.in/noc22_ee61/preview</a>
8	noc22-mg20	Behavioral and Personal Finance	Prof. Abhijeet Chandra	IITKGP	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_mg20/preview">https://onlinecourses.nptel.ac.in/noc22_mg20/preview</a>
9	noc22-mg28	Global Marketing Management	Prof. Zillur Rahman	IITR	8 weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_mg28/preview">https://onlinecourses.nptel.ac.in/noc22_mg28/preview</a>
10	noc22-mg39	Leadership and Team Effectiveness	Prof. Santosh Rangnekar	IITR	12 weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg39/preview">https://onlinecourses.nptel.ac.in/noc22_mg39/preview</a>
11	noc22-cs13	Ethical Hacking	Prof. Indranil Sengupta	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs13/preview">https://onlinecourses.nptel.ac.in/noc22_cs13/preview</a>
12	noc22-cs16	User-centric Computing for Human-Computer Interaction	Prof. Samit Bhattacharya	IITG	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_cs16/preview">https://onlinecourses.nptel.ac.in/noc22_cs16/preview</a>
13	noc22-cs23	Information Security - 5 - Secure Systems Engineering	Prof. Chester Robeiro	IITM	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_cs23/preview">https://onlinecourses.nptel.ac.in/noc22_cs23/preview</a>
14	noc22-cs36	Systems and Usable Security	Prof. Neminath Hubballi	IIT Indore	4 Weeks	1	<a href="https://onlinecourses.nptel.ac.in/noc22_cs36/preview">https://onlinecourses.nptel.ac.in/noc22_cs36/preview</a>
15	noc22-cs38	Design and Engineering of Computer Systems	Prof. Mythili Vutukuru	IITB	8 Weeks	2	<a href="https://onlinecourses.nptel.ac.in/noc22_cs38/preview">https://onlinecourses.nptel.ac.in/noc22_cs38/preview</a>

16	noc22-cs39	Software Conceptual Design	Prof. Sridhar Iyer Prof. Prajish Prasad Prof. T. G. Lakshmi	IITB	4 Weeks	1	<a href="https://onlinecourses.nptel.ac.in/noc22_cs39/preview">https://onlinecourses.nptel.ac.in/noc22_cs39/preview</a>
17	noc22-cs48	Hardware Security	Prof. Debdeep Mukhopadhyay	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs48/preview">https://onlinecourses.nptel.ac.in/noc22_cs48/preview</a>
18	noc22-cs25	Model Checking	Prof. Srivathsan B.	CMI	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs25/preview">https://onlinecourses.nptel.ac.in/noc22_cs25/preview</a>
19	noc22-mg38	Integrated Marketing Communication	Prof. Vinay Sharma	IITR	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg38/preview">https://onlinecourses.nptel.ac.in/noc22_mg38/preview</a>
20	noc22-cs60	Arithmetic Circuit Complexity	Prof. Nitin Saxena	IITK	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs60/preview">https://onlinecourses.nptel.ac.in/noc22_cs60/preview</a>
21	noc22-cs55	Object Oriented System Development Using UML, Java And Patterns	Prof. Rajib Mall	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs55/preview">https://onlinecourses.nptel.ac.in/noc22_cs55/preview</a>
22	noc22-cs37	Online Privacy	Prof. Ponnurangam Kumaraguru	IITH	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs37/preview">https://onlinecourses.nptel.ac.in/noc22_cs37/preview</a>
23	noc22-cs41	Computational Geometry	Prof. Amit Kumar	IITD	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs41/preview">https://onlinecourses.nptel.ac.in/noc22_cs41/preview</a>
24	noc22-cs08	Data Analytics with Python	Prof. A. Ramesh	IITR	12 weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs08/preview">https://onlinecourses.nptel.ac.in/noc22_cs08/preview</a>
25	noc22-cs09	GPU Architectures and Programming	Prof. Soumyajit Dey	IITKGP	12 weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs09/preview">https://onlinecourses.nptel.ac.in/noc22_cs09/preview</a>
26	noc22-hs19	Introduction to Cognitive Psychology	Prof. Naveen Kashyap	IITG	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_hs19/preview">https://onlinecourses.nptel.ac.in/noc22_hs19/preview</a>

27	noc22-mg12	Engineering Econometrics	Prof. Rudra P Pradhan	IITKGP	12 weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg12/preview">https://onlinecourses.nptel.ac.in/noc22_mg12/preview</a>
28	noc22-mg37	Leadership for India Inc: Practical Concepts and Constructs	Prof. C Bhaktavatsala Rao	IITM	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_mg37/preview">https://onlinecourses.nptel.ac.in/noc22_mg37/preview</a>
29	noc22-cs44	Blockchain and its Applications	Prof. Sandip Chakraborty Prof. Shamik Sural	IITKGP	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_cs44/preview">https://onlinecourses.nptel.ac.in/noc22_cs44/preview</a>
30	noc22-ge08	Research Methodology	Prof. Soumitro Banerjee	IISER Kolkata	12 Weeks	3	<a href="https://onlinecourses.nptel.ac.in/noc22_ge08/preview">https://onlinecourses.nptel.ac.in/noc22_ge08/preview</a>

**Note:**

1. The credits will be awarded based on scheme proposed above.
2. Students should mandatory undertake one NPTEL/SWAYAM course of only 3 credits from the above list between 5<sup>th</sup> to 7<sup>th</sup> semester against 8<sup>th</sup>-semester course i.e. CE820 Elective –NPTEL/MOOC/SWAYAM.
3. The student shall submit the NPTEL/SWAYAM certificates to Goa University through Heads of Department while applying for the degree.