Subject: With reference to Honour degree registered students with USN XXX22XXXXX (Regular), USN XXX22XX4XX (Diploma Lateral Entry), USN XXX22XX6XX (B.Sc Lateral Entry)...

Students who have registered for Honours degree (academic year 2024-25) has to enroll to courses, attend quizzes and complete exams of all courses (totalling to 18 credits) in the **VTU online portal** (https://online.vtu.ac.in/) itself and courses done in any other platforms will not be considered to award Honour degree.

Note: Exams for these courses will be conducted by VTU and it will be online mode.

Below are the steps for:

- A. Course enrollment
- B. Attending quizzes
- C. Exam registration/application
- D. Exam Slot booking
- E. Attending Online Exams

A. Course Enrollment Procedure

- 1. Click on the **course link** provided next to each course in the below mentioned department wise eligible course list.
- 2. You will be taken to the Course Overview page directly, Click on Enroll the Course.
- 3. Now you are enrolled in the Course, Click on **Profile** Picture then Click **My Learning**.
- 4. All the Courses that you are enrolled to will be in **My Learning**, you can Start accessing the Course content by clicking on **Start** button in front of the Course

OR

- 1. Go to **online.vtu.ac.in** link
- 2. Click on the **Sign In** button on the top right corner.
- 3. Login by entering your email ID and password.
- 4. You will be taken to the Student dashboard, click on My Learning at the left.
- 5. Click on Browse More Course.
- 6. Under Categories, Click on MOOC Resources.
- 7. Select the subcategory under MOOC Resources, Courses will be displayed.
- 8. Click on the Course you would like to enroll in.
- 9. You will be taken to the Course Overview page, Click on Enroll the Course.
- 10. Now you are enrolled in the Course, Click on Profile Picture then Click My Learning.

11. All the Courses that you are enrolled to will be in **My Learning**, you can Start accessing the Course content by clicking on **Start** button in front of the Course

B. Procedure to Attend Quiz

- 1. Log in to your account and navigate to the Dashboard.
- 2. Click on the My Learning tab in the Dashboard.
- 3. You will see a list of all the courses you are enrolled in.
- 4. Click on the **Start** button next to the course name.
- 5. You will be taken to the **Course Content** page.
- 6. Complete watching the video lessons for the course.
- 7. Scroll down to the Quiz section located under the video playing section.
- 8. Click on the Quiz section to view the available quizzes.
- 9. Select the quiz you want to attend and click on the Start Quiz button.
- 10. Read the terms and conditions carefully before proceeding.
- 11. Agree to the **terms and conditions** and click on the **Start Quiz** button again to begin the quiz.
- 12. Complete the quiz and **submit** your answers.
- 13. To view your quiz score, click on the Leaderboard.
- 14. You will see your **score** and **ranking** compared to other students.

C. Procedure for Exam Registration/Application

- 1. Click on **Exam** on the navigation bar on the **Home page**.
- 2. To register for Honours degree exams, click on Exam Registration Honours.
- 3. Login into your account by entering login credentials, it will take you directly to the exam registration form.
- 4. At the bottom, there will be a field to select the course. In the dropdown select the course which you would like to appear for the exam.
- 5. Click on Save and Continue. Exam fee will be displayed.
- 6. Click on **Pay now** and complete the payment.
- 7. You can check the status of your exam application under My Application in the student dashboard.

D. Procedure for Exam Slot Booking:

- 1. Log in to your account and navigate to the Dashboard.
- 2. Click on the My Application tab in the Dashboard.
- 3. Check that your application status is **Paid** for the course you want to book a slot for.
- 4. Click on the **Book Now** button in front of the course name.
- 5. You will be taken to the **Slot Booking** page. View all booked slot details displayed on this page, including date, time, and exam status information.
- 6. Click on the **Book a slot** button to initiate the slot booking process. A slot booking pop-up window will appear, prompting you to select your preferred slot details.
- 7. Select the **course** from the **dropdown** menu.
- 8. Choose a **date and time** slot from the available options.
- 9. Verify that the selected slot details are correct.

- 10. Click on the **Book now** button to **confirm** your slot booking.
- 11. View Booked Slot Details in **Slot Booking** page for confirmation.

E. Procedure for Attending Online Proctored Exam :

- 1. Go to My Applications and click Book Now next to your exam application.
- 2. On the scheduled date and time, click the **Start** button next to your course.
- 3. Read and agree to the **terms and conditions**.
- 4. Click Enter Exam to begin.
- 5. Complete the exam, **submit** your answers, and view your score.

	COMPUTER SCIENCE AND TECHNOLOGY								
Sl. No	Discipline	Course Name	Duration	Course Link	Credits				
1	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	https://online.vtu.ac.in/course-details/Artifi cial-Intelligence-Search-Methods-For-Proble <u>m-Solving-IIT-Madras</u>	3				
2	Computer Science and Engineering	Introduction To Haskell Programming	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Haskell-Programming	2				
3	Computer Science and Engineering	C Programming And Assembly Language	4 Weeks	https://online.vtu.ac.in/course-details/C-Pr ogramming-And-Assembly-Language	1				
4	Computer Science and Engineering	Software Testing (IITKGP)	4 Weeks	https://online.vtu.ac.in/course-details/Soft ware-Testing-IITKGP	1				
5	Computer Science and Engineering	Introduction To Industry 4.0 And Industrial Internet Of Things	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Industry-40-And-Industrial-Inter <u>net-Of-Things</u>	3				

6	Computer Science and Engineering	Natural Language Processing	12 Weeks	https://online.vtu.ac.in/course-details/Natu ral-Language-Processing	3
7	Computer Science and Engineering	The Joy Of Computing Using Python	12 Weeks	<u>https://online.vtu.ac.in/course-details/The-J</u> <u>oy-of-Computing-using-Python</u>	3

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8	Computer Science and Engineering	Modern Algebra	8 Weeks	https://online.vtu.ac.in/course-details/Mod ern-Algebra	2
9	Computer Science and Engineering	Data Base Management System	8 Weeks	https://online.vtu.ac.in/course-details/Data -Base-Management-System-384165	2
10	Computer Science and Engineering	Python For Data Science	4 Weeks	https://online.vtu.ac.in/course-details/Pyth on-for-Data-Science	1
11	Computer Science and Engineering	Introduction To Machine Learning	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-to-Machine-Learning	3
12	Computer Science and Engineering	Data Science For Engineers	8 Weeks	https://online.vtu.ac.in/course-details/Data -Science-for-Engineers-815403	2
13	Computer Science and Engineering	Programming, Data Structures And Algorithms Using Python	8 Weeks	https://online.vtu.ac.in/course-details/Prog ramming-Data-Structures-And-Algorithms-U sing-Python	2
14	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	https://online.vtu.ac.in/course-details/Goog le-Cloud-Computing-Foundations	2

15	Computer Science and Engineering	Cloud Computing	12 Weeks	https://online.vtu.ac.in/course-details/Clou <u>d-Computing</u>	3]
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Computer Science and Engineering	Programming In Java	12 Weeks	https://online.vtu.ac.in/course-details/Prog ramming-In-Java	3
Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	https://online.vtu.ac.in/course-details/Getti ng-Started-with-Competitive-Programming	3
Computer Science and Engineering	Advanced Computer Networks	12 Weeks	https://online.vtu.ac.in/course-details/adva nced-computer-networks	3
Computer Science and Engineering	Advanced Graph Theory	8 Weeks	https://online.vtu.ac.in/course-details/adva nced-graph-theory-600308	2
Computer Science and Engineering	Block Chain and its Applications	12 Weeks	https://online.vtu.ac.in/course-details/Bloc kchain-and-its-Applications	3
Computer Science and Engineering	Circuit Complexity Theory	12 Weeks	https://online.vtu.ac.in/course-details/circu it-complexity-theory	3
Computer Science and Engineering	Cloud Computing and Distributed Systems	8 Weeks	https://online.vtu.ac.in/course-details/clou d-computing-and-distributed-systems-508569	2
Computer Science and Engineering	Computational Number Theory and Algebra	12 Weeks	https://online.vtu.ac.in/course-details/com putational-number-theory-and-algebra	3
Computer Science	Data Mining	8 Weeks	https://online.vtu.ac.in/course-details/data	2
	and Engineering Computer Science and Engineering Computer Science and Engineering Computer Science and Engineering Computer Science and Engineering Computer Science and Engineering	and EngineeringProgrammingComputer Science and EngineeringAdvanced Computer NetworksComputer Science and EngineeringAdvanced Graph TheoryComputer Science and EngineeringBlock Chain and its ApplicationsComputer Science and EngineeringCircuit Complexity TheoryComputer Science and EngineeringCloud Computing and Distributed SystemsComputer Science and EngineeringComputational Number Theory and AlgebraComputer Science and EngineeringComputational Number Theory and Algebra	and EngineeringProgramming12 WeeksComputer Science and EngineeringAdvanced Computer Networks12 WeeksComputer Science and EngineeringAdvanced Graph Theory8 WeeksComputer Science and EngineeringBlock Chain and its Applications12 WeeksComputer Science and EngineeringCircuit Complexity Theory12 WeeksComputer Science and EngineeringCircuit Complexity Theory12 WeeksComputer Science and EngineeringCloud Computing and Distributed Systems8 WeeksComputer Science and EngineeringComputational Number Theory Algebra12 WeeksComputer Science and EngineeringSystems8 WeeksComputer Science and EngineeringSystems8 WeeksComputer Science and EngineeringComputational Number Theory Algebra12 WeeksComputer Science and EngineeringSystems8 Weeks	and Engineering Programming 12 Weeks ng-Started-with-Competitive-Programming computer Science Advanced Computer Networks 12 Weeks https://online.vtu.ac.in/course-details/advanced-computer-networks computer Science Advanced Graph Theory 8 Weeks https://online.vtu.ac.in/course-details/advanced-graph-theory-600308 computer Science Block Chain and its Applications 12 Weeks https://online.vtu.ac.in/course-details/Blockchain-and-its-Applications computer Science Block Chain and its Applications 12 Weeks https://online.vtu.ac.in/course-details/Blockchain-and-its-Applications computer Science Circuit Complexity Theory 12 Weeks https://online.vtu.ac.in/course-details/circuiti-complexity-theory computer Science Cloud Computing and Distributed Systems 8 Weeks https://online.vtu.ac.in/course-details/cloud-computing-and-distributed-systems-508569 computer Science Computational Number Theory 12 Weeks https://online.vtu.ac.in/course-details/cloud-computing-and-distributed-systems-508569 computer Science Computational Number Theory 12 Weeks https://online.vtu.ac.in/course-details/computational-number-theory-and-algebra computer Science Computational Number Theory 8 Weeks https://online.vtu.ac.in/course-details/computational-number-theory-and-algebra

25	Computer Science and Engineering	Digital Design with Verilog	12 Weeks	https://online.vtu.ac.in/course-details/digit al-design-with-verilog	3
26	Computer Science and Engineering	Edge Computing	8 Weeks	https://online.vtu.ac.in/course-details/edge -computing	2
27	Computer Science and Engineering	Embedded System Design with ARM	8 Weeks	https://online.vtu.ac.in/course-details/embe dded-system-design-with-arm	2
28	Computer Science and Engineering	Fundamental Algorithms: Design and Analysis	4 Weeks	https://online.vtu.ac.in/course-details/fund amental-algorithms-design-and-analysis	1
29	Computer Science and Engineering	Machine Learning for Engineering and science applications	12 Weeks	https://online.vtu.ac.in/course-details/mach ine-learning-for-engineering-and-science-app <u>lications</u>	3
30	Computer Science and Engineering	Optimisation for Machine Learning: Theory and Implementation(Hindi)	8 Weeks	https://online.vtu.ac.in/course-details/opti misation-for-machine-learning-theory-and-im plementation-hindi	2
31	Computer Science and Engineering	Parallel Computer Architecture	12 Weeks	https://online.vtu.ac.in/course-details/paral lel-computer-architecture	3
32	Computer Science and Engineering	Quantum Algorithms and Cryptography	12 Weeks	<u>https://online.vtu.ac.in/course-details/quan</u> <u>tum-algorithms-and-cryptography</u>	3

33	Computer Science and Engineering	Switching Circuits and Logic Design	12 Weeks	https://online.vtu.ac.in/course-details/switc hing-circuits-and-logic-design	3
34	Computer Science and Engineering	Systems and Usable Security	4 Weeks	https://online.vtu.ac.in/course-details/syste ms-and-usable-security-979026	1
35	Computer Science and Engineering	User-centric Computing For Human-Computer Interaction	8 Weeks	https://online.vtu.ac.in/course-details/userc entric-computing-for-human-computer-inter action	2
36	Computer Science and Engineering	Linear programming and its applications to computer science	8 Weeks	https://online.vtu.ac.in/course-details/linea r-programming-and-its-applications-to-comp uter-science	2
37	Computer Science and Engineering	Affective Computing	12 Weeks	https://online.vtu.ac.in/course-details/Affec tive-Computing	3
38	Computer Science and Engineering	AI: Constraint Satisfaction	8 Weeks	https://online.vtu.ac.in/course-details/AI-C onstraint-Satisfaction-836131	2
39	Computer Science and Engineering	Data Analytics with Python	12 Weeks	https://online.vtu.ac.in/course-details/Data -Analytics-with-Python	3
40	Computer Science and Engineering	Discrete Mathematics - IITB	12 Weeks	https://online.vtu.ac.in/course-details/Discr ete-Mathematics-IIITB	3

41	Computer Science and Engineering	Foundations of Cyber Physical Systems	12 Weeks	https://online.vtu.ac.in/course-details/Foun dations-of-Cyber-Physical-Systems	3
42	Computer Science and Engineering	GPU Architectures and Programming	12 Weeks	https://online.vtu.ac.in/course-details/GPU -Architectures-And-Programming	3
43	Computer Science and Engineering	Information Security - 5 - Secure Systems Engineering	8 Weeks	https://online.vtu.ac.in/course-details/Infor mation-Security-5-Secure-Systems-Engineerin g	2
44	Computer Science and Engineering	Introduction to Embedded System Design	12 Weeks	https://online.vtu.ac.in/course-details/intro duction-to-embedded-system-design	3
45	Computer Science and Engineering	Introduction To Internet Of Things	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Internet-Of-Things	3
46	Computer Science and Engineering	Introduction To Soft Computing	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Soft-Computing	2
47	Computer Science and Engineering	Problem Solving Through Programming In C	12 Weeks	https://online.vtu.ac.in/course-details/Probl em-Solving-Through-Programming-In-C	3

48	Computer Science and Engineering	Programming in Modern C++	12 Weeks	<u>https://online.vtu.ac.in/course-details/Prog</u> <u>ramming-In-Modern-C</u>	3
49	Computer Science and Engineering	Reinforcement Learning	12 Weeks	https://online.vtu.ac.in/course-details/Reinf orcement-Learning	3
50	Computer Science and Engineering	Secure Computation: Part I	12 Weeks	https://online.vtu.ac.in/course-details/Secu <u>re-Computation-Part-I</u>	3
51	Computer Science and Engineering	Social Networks	12 Weeks	https://online.vtu.ac.in/course-details/Socia l-Networks	3
52	Computer Science and Engineering	Foundation of Cloud IoT Edge ML	8 Weeks	https://online.vtu.ac.in/course-details/Foun dation-of-Cloud-IOT-Edge-ML-487203	2

	AEROSPACE ENGINEERING							
Sl. No	Discipline	Course Name	Duration	Course Link	Credits			
1	Aerospace Engineering	Aircraft Stability And Control	12 Weeks	https://online.vtu.ac.in/course-details/Aircr aft-Stability-And-Control	3			
2	Aerospace Engineering	Introduction To Airplane Performance	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Airplane-Performance	2			
3	Aerospace Engineering	Introduction To Air breathing Propulsion	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Airbreathing-Propulsion	3			
4	Aerospace Engineering	Design Of Fixed Wing Unmanned Aerial Vehicles	8 Weeks	https://online.vtu.ac.in/course-details/Desi gn-Of-Fixed-Wing-Unmanned-Aerial-Vehicle <u>S</u>	2			
5	Aerospace Engineering	Introduction To Aircraft Design	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Aircraft-Design	3			
6	Aerospace Engineering	Space Flight Mechanics	12 Weeks	https://online.vtu.ac.in/course-details/Spac <u>e-Flight-Mechanics</u>	3			
7	Aerospace Engineering	Vibration And Structural Dynamics	8 Weeks	https://online.vtu.ac.in/course-details/Vibra tion-And-Structural-Dynamics	2			
8	Aerospace Engineering	Aerodynamic Design Of Axial Flow Compressors & Fans	12 Weeks	https://online.vtu.ac.in/course-details/Aero dynamic-Design-Of-Axial-Flow-Compressors -Fans	3			

9	Aerospace Engineering	Aircraft Stability And Control	12 Weeks	https://online.vtu.ac.in/course-details/Aircr aft-Stability-And-Control	3
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10	Aerospace Engineering	Introduction To Airplane Performance	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Airplane-Performance	2
11	Aerospace Engineering	Introduction To Airbreathing Propulsion	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Airbreathing-Propulsion	3
12	Aerospace Engineering	Design Of Fixed Wing Unmanned Aerial Vehicles	8 Weeks	<u>https://online.vtu.ac.in/course-details/Design-Of-Fixed-Wing-Unmanned-Aerial-Vehicles</u>	2
13	Aerospace Engineering	Introduction To Aircraft Design	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Aircraft-Design	3
14	Aerospace Engineering	Space Flight Mechanics	12 Weeks	https://online.vtu.ac.in/course-details/Spac e-Flight-Mechanics	3
15	Aerospace Engineering	Vibration And Structural Dynamics	8 Weeks	https://online.vtu.ac.in/course-details/Vibra tion-And-Structural-Dynamics	2
16	Aerospace Engineering	Aerodynamic Design Of Axial Flow Compressors & Fans	12 Weeks	https://online.vtu.ac.in/course-details/Aero dynamic-Design-Of-Axial-Flow-Compressors <u>-Fans</u>	3
17	Aerospace Engineering	Introduction to Experiments in Flight	4 Weeks	https://online.vtu.ac.in/course-details/Intro duction-to-Experiments-in-Flight	1

BIOTECHNOLOGY AND BIOENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Biotechnology and Bioengineering	Genetic Engineering: Theory And Application	12 Weeks	https://online.vtu.ac.in/course-details/Gene tic-Engineering-Theory-and-Application	3
2	Biotechnology and Bioengineering	Cellular Biophysics: A Framework For Quantitative Biology	8 Weeks	https://online.vtu.ac.in/course-details/Cellu lar-Biophysics-A-Framework-For-Quantitativ <u>e-Biology</u>	2
3	Biotechnology and Bioengineering	Medical Image Analysis	12 Weeks	https://online.vtu.ac.in/course-details/Medi cal-Image-Analysis	3
4	Biotechnology and Bioengineering	Computer Aided Drug Design	8 Weeks	https://online.vtu.ac.in/course-details/Com puter-Aided-Drug-Design	2
5	Biotechnology and Bioengineering	Plant Cell Bioprocessing	8 Weeks	https://online.vtu.ac.in/course-details/Plant -Cell-Bioprocessing	2
6	Biotechnology and Bioengineering	Bioreactors	4 Weeks	https://online.vtu.ac.in/course-details/Biore actors	1
7	Biotechnology and Bioengineering	Introduction To Biomedical Imaging Systems	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Biomedical-Imaging-Systems	3
8	Biotechnology and Bioengineering	Organ Printing	8 Weeks	https://online.vtu.ac.in/course-details/Orga <u>n-Printing</u>	2
9	Biotechnology and Bioengineering	Genome Editing And Engineering	12 Weeks	https://online.vtu.ac.in/course-details/Geno me-Editing-And-Engineering	3

Bioengineering

10	Biotechnology and Bioengineering	Functional Genomics	4 Weeks	https://online.vtu.ac.in/course-details/Func tional-Genomics	1
11	Biotechnology and Bioengineering	Conservation Geography	12 Weeks	https://online.vtu.ac.in/course-details/Cons ervation-Geography	3
12	Biotechnology and Bioengineering	Experimental Biotechnology	12 Weeks	https://online.vtu.ac.in/course-details/Expe rimental-Biotechnology	3
13	Biotechnology and Bioengineering	Introduction To Mechanobiology	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Mechanobiology	2
14	Biotechnology and Bioengineering	Industrial Biotechnology	12 Weeks	https://online.vtu.ac.in/course-details/Indu strial-Biotechnology	3
15	Biotechnology and Bioengineering	Basics of Biology	12 Weeks	https://online.vtu.ac.in/course-details/Basic <u>s-of-Biology</u>	3
16	Biotechnology and Bioengineering	Biochemistry - IITM	12 Weeks	<u>https://online.vtu.ac.in/course-details/Bioc</u> <u>hemistry-IITM</u>	3
17	Biotechnology and Bioengineering	Bioengineering: An Interface with Biology and Medicine	8 Weeks	https://online.vtu.ac.in/course-details/Bioe ngineering-An-Interface-with-Biology-and-M edicine	2
18	Biotechnology and Bioengineering	Biointerface Engineering	8 Weeks	https://online.vtu.ac.in/course-details/Bioin terface-Engineering	2
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19	Biotechnology and Bioengineering	Biomechanics	12 Weeks	<u>https://online.vtu.ac.in/course-details/Bio</u> <u>m echanics</u>	3
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20	Biotechnology and Bioengineering	Bioreactor Design and Analysis	8 Weeks	<u>https://online.vtu.ac.in/course-details/Bior</u> <u>e actor-Design-and-Analysis</u>	2
21	Biotechnology and Bioengineering	Biostatistics and Design of experiments	8 Weeks	https://online.vtu.ac.in/course-details/Biost atistics-and-Design-of-experiments	2
22	Biotechnology and Bioengineering	Cell Biology: Cellular organization, division and processes	8 Weeks	https://online.vtu.ac.in/course-details/Cell Biology-Cellular-organization-division-and-p rocesses	2
23	Biotechnology and Bioengineering	Computational Systems Biology	12 Weeks	https://online.vtu.ac.in/course-details/Com putational-Systems-Biology	3
24	Biotechnology and Bioengineering	Data Analysis for Biologists	8 Weeks	https://online.vtu.ac.in/course-details/Data -Analysis-for-Biologists	2
25	Biotechnology and Bioengineering	Demystifying the Brain	4 Weeks	https://online.vtu.ac.in/course-details/Dem ystifying-The-Brain	1
26	Biotechnology and Bioengineering	Environmental Chemistry and Microbiology	12 Weeks	https://online.vtu.ac.in/course-details/Envi ronmental-Chemistry-and-Microbiology	3
27	Biotechnology and Bioengineering	Interactomics: Basics & Applications	12 Weeks	https://online.vtu.ac.in/course-details/Inter actomics-Basics-Applications	3
28	Biotechnology and Bioengineering	Introductory Mathematical Methods for Biologists	8 Weeks	https://online.vtu.ac.in/course-details/Intro ductory-Mathematical-Methods-for-Biologist <u>S</u>	2

29	Biotechnology and Bioengineering	Material and Energy Balances	12 Weeks	https://online.vtu.ac.in/course-details/Mate rial-and-Energy-Balances	3
30	Biotechnology and Bioengineering	Maternal Infant Young Child Nutrition	12 Weeks	https://online.vtu.ac.in/course-details/mate rnal-infant-young-child-nutrition	3
31	Biotechnology and Bioengineering	Medical Biomaterials	8 Weeks	<u>https://online.vtu.ac.in/course-details/Med</u> <u>i cal-Biomaterials</u>	2
32	Biotechnology and Bioengineering	Nanotechnology in Agriculture	8 Weeks	https://online.vtu.ac.in/course-details/Nan otechnology-In-Agriculture	2
33	Biotechnology and Bioengineering	Plant Developmental Biology	4 Weeks	<u>https://online.vtu.ac.in/course-details/Plan</u> <u>t -Developmental-Biology</u>	1
34	Biotechnology and Bioengineering	Structural Biology	12 Weeks	<u>https://online.vtu.ac.in/course-details/Struc</u> <u>tural-Biology</u>	3
35	Biotechnology and Bioengineering	Thermodynamics for Biological Systems : Classical and Statistical Aspect	12 Weeks	https://online.vtu.ac.in/course-details/Ther modynamics-for-Biological-Systems-Classical -and-Statistical-Aspect	3

	CIVIL ENGINEERING							
S1. No	Discipline	Course Name	Duration	Course Link	Credits			
1	Civil Engineering	Finite Element Method And Computational Structural Dynamics	12 Weeks	https://online.vtu.ac.in/course-details/Finit e-Element-Method-And-Computational-Struc tural-Dynamics	3			

2	Civil Engineering	Mechanics Of Materials	12 Weeks	https://online.vtu.ac.in/course-details/Mec hanics-Of-Materials	3
3	Civil Engineering	Project Planning & Control	8 Weeks	https://online.vtu.ac.in/course-details/proje ct-planning-control	2
4	Civil Engineering	Principles Of Construction Management	8 Weeks	https://online.vtu.ac.in/course-details/princ iples-of-construction-management	2
5	Civil Engineering	Municipal Solid Waste Management	12 Weeks	https://online.vtu.ac.in/course-details/muni cipal-solid-waste-management	3
6	Civil Engineering	Introduction to Multimodal Urban Transportation Systems (MUTS)	12 Weeks	https://online.vtu.ac.in/course-details/intro duction-to-multimodal-urban-transportation- systems-muts	3
7	Civil Engineering	Bridge Engineering	12 Weeks	https://online.vtu.ac.in/course-details/bridg e-engineering	3
8	Civil Engineering	Wastewater Treatment And Recycling	12 Weeks	https://online.vtu.ac.in/course-details/wast ewater-treatment-and-recycling	3
10	Civil Engineering	Matrix Method Of Structural Analysis	8 Weeks	https://online.vtu.ac.in/course-details/matri x-method-of-structural-analysis	2
11	Civil Engineering	Integrated Waste Management For A Smart City	12 Weeks	https://online.vtu.ac.in/course-details/integ rated-waste-management-for-a-smart-city	3
12	Civil Engineering	Sustainable Engineering Concepts And Life Cycle Analysis	8 Weeks	https://online.vtu.ac.in/course-details/Susta inable-Engineering-Concepts-And-Life-Cycle -Analysis	2

13	Civil Engineering	Sustainable Transportation Systems	12 Weeks	https://online.vtu.ac.in/course-details/susta inable-transportation-systems	3
14	Civil Engineering	Advanced Foundation Engineering	12 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Foundation-Engineering	3
15	Civil Engineering	Applied Seismology for Engineers	12 Weeks	https://online.vtu.ac.in/course-details/appli ed-seismology-for-engineers	3

16	Civil Engineering	Digital Land Surveying and Mapping (DLS&M)	8 Weeks	https://online.vtu.ac.in/course-details/digit al-land-surveying-and-mapping-dlsm-744688	2
17	Civil Engineering	Earthquake Resistant Design of Foundations	8 Weeks	<u>https://online.vtu.ac.in/course-details/Earth</u> <u>quake-Resistant-Design-of-Foundations</u>	2
18	Civil Engineering	Environmental Remediation of Contaminated Sites	12 Weeks	https://online.vtu.ac.in/course-details/Envi ronmental-Remediation-of-Contaminated-Sit es	3
19	Civil Engineering	Expansive Soil	8 Weeks	https://online.vtu.ac.in/course-details/Expa nsive-Soil-190512	2
20	Civil Engineering	Geographic Information Systems	12 Weeks	https://online.vtu.ac.in/course-details/Geog raphic-Information-Systems	3
21	Civil Engineering	Geology and Soil Mechanics	12 Weeks	https://online.vtu.ac.in/course-details/geolo gy-and-soil-mechanics	3
22	Civil Engineering	Geomorphic Processes: Landforms and Landscapes	8 Weeks	https://online.vtu.ac.in/course-details/geo morphic-processes-landforms-and-landscape <u>s</u>	2
23	Civil Engineering	GPS Surveying	4 Weeks	https://online.vtu.ac.in/course-details/gps-s urveying	1
24	Civil Engineering	Hydraulic Engineering	12 Weeks	https://online.vtu.ac.in/course-details/Hydr aulic-Engineering-300935	3
25	Civil Engineering	Industrial Wastewater Treatment	12 weeks	https://online.vtu.ac.in/course-details/Indu strial-Wastewater-Treatment	3

26	Civil Engineering	Introduction to Accounting and Finance for Civil Engineers	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-to-Accounting-and-Finance-for-Civil Engineers	2					
27	Civil Engineering	Introduction to Civil Engineering Profession	8 Weeks	https://online.vtu.ac.in/course-details/intro duction-to-civil-engineering-profession	2					
28	Civil Engineering	Maintenance and Repair of Concrete Structures	12 weeks	https://online.vtu.ac.in/course-details/Main tenance-and-Repair-of-Concrete-Structures	3					
29	Civil Engineering	Modern Construction Materials	12 Weeks	https://online.vtu.ac.in/course-details/Mod ern-Construction-materials	3					
30	Civil Engineering	Soil Structure Interaction	12 Weeks	https://online.vtu.ac.in/course-details/SoilS tructure-Interaction	3					
31	Civil Engineering	Unsaturated Soil Mechanics	12 Weeks	https://online.vtu.ac.in/course-details/unsa turated-soil-mechanics	3					
32	Civil Engineering	Structural Dynamics for Civil Engineers - SDOF Systems	4 Weeks	https://online.vtu.ac.in/course-details/struc tural-dynamics-for-civil-engineers-sdof-syste ms	1					
		MA	ANAGEMENT	MANAGEMENT						

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Management	Toyota Production System	8 Weeks	https://online.vtu.ac.in/course-details/Toyo ta-Production-System	2
2	Management	Training Of Trainers	12 Weeks	https://online.vtu.ac.in/course-details/Train ing-Of-Trainers	3
3	Management	Business Analytics & Data Mining Modeling Using R Part II	4 Weeks	https://online.vtu.ac.in/course-details/Busi ness-Analytics-Data-Mining-Modeling-Using <u>-R-Part-II</u>	1

4	Management	Yoga And Positive Psychology For Managing Career And Life	8 Weeks	https://online.vtu.ac.in/course-details/Yoga -And-Positive-Psychology-For-Managing-Car eer-And-Life	2
5	Management	Decision-Making Under Uncertainty	4 Weeks	https://online.vtu.ac.in/course-details/Decis ion-Making-Under-Uncertainty	1
6	Management	Design Thinking - A Primer	4 Weeks	<u>https://online.vtu.ac.in/course-details/Desi</u> <u>gn-Thinking-A-Primer</u>	1
7	Management	Strategy And Technology: A Practical Primer	12 Weeks	https://online.vtu.ac.in/course-details/Strat egy-And-Technology-A-Practical-Primer	3
8	Management	Marketing Management - I	8 Weeks	https://online.vtu.ac.in/course-details/Strat egy-And-Technology-A-Practical-Primer	2
9	Management	Game Theory	8 Weeks	https://online.vtu.ac.in/course-details/game <u>-theory</u>	2
10	Management	E-Business	12 Weeks	https://online.vtu.ac.in/course-details/E-Bu siness	3

11	Management	Corporate Finance	8 Weeks	https://online.vtu.ac.in/course-details/corp orate-finance	2
12	Management	Strategic Management For Competitive Advantage	12 Weeks	https://online.vtu.ac.in/course-details/strat egic-management-for-competitive-advantage	3
13	Management	Econometric Modelling	8 Weeks	https://online.vtu.ac.in/course-details/econ ometric-modelling	2

14	Management	Industrial Safety Engineering	12 Weeks	https://online.vtu.ac.in/course-details/indu strial-safety-engineering	3
15	Management	Financial accounting	12 Weeks	https://online.vtu.ac.in/course-details/Fina ncial-Accounting	3
16	Management	Financial Management For Managers	12 Weeks	https://online.vtu.ac.in/course-details/Fina ncial-Management-For-Managers	3
17	Management	Leadership and Team Effectiveness	12 Weeks	https://online.vtu.ac.in/course-details/Lead ership-and-Team-Effectiveness	3
18	Management	Management of Commercial Banking	12 Weeks	https://online.vtu.ac.in/course-details/Man agement-of-Commercial-Banking	3
19	Management	Managing change in organizations	8 Weeks	https://online.vtu.ac.in/course-details/man aging-change-in-organizations-448977	2
20	Management	Simulation of Business Systems: An Applied Approach	8 Weeks	https://online.vtu.ac.in/course-details/simu lation-of-business-systems-an-applied-approa <u>ch</u>	2
21	Management	Strategic Services Marketing	12 Weeks	https://online.vtu.ac.in/course-details/strat egic-services-marketing-747554	3
22	Management	Systems Engineering: Theory & Practice	8 Weeks	https://online.vtu.ac.in/course-details/syste ms-engineering-theory-practice-277240	2

23	Management	Business Forecasting	8 Weeks	https://online.vtu.ac.in/course-details/busi ness-forecasting	2	
	MECHANICAL ENGINEERING					
S1. No	Discipline	Course Name	Duration	Course Link	Credits	

1	Mechanical Engineering	Fundamentals Of Convective Heat Transfer	12 Weeks	https://online.vtu.ac.in/course-details/fund amentals-of-convective-heat-transfer	3	
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2	Mechanical Engineering	Aircraft Propulsion	12 Weeks	https://online.vtu.ac.in/course-details/Aircr aft-Propulsion	3
3	Mechanical Engineering	Laser Based Manufacturing	8 Weeks	https://online.vtu.ac.in/course-details/Laser -Based-Manufacturing	2
4	Mechanical Engineering	Mathematical Modeling Of Manufacturing Processes	12 Weeks	https://online.vtu.ac.in/course-details/math ematical-modeling-of-manufacturing-process <u>es</u>	3
5	Mechanical Engineering	Welding Application Technology	8 Weeks	https://online.vtu.ac.in/course-details/weld ing-application-technology	2
6	Mechanical Engineering	Robotics	8 Weeks	https://online.vtu.ac.in/course-details/Robo tics	2
7	Mechanical Engineering	Product Design And Development	4 Weeks	https://online.vtu.ac.in/course-details/prod uct-design-and-development	1
8	Mechanical Engineering	Principles Of Metal Forming Technology	8 Weeks	https://online.vtu.ac.in/course-details/princ iples-of-metal-forming-technology	2
9	Mechanical Engineering	Selection Of Nanomaterials For Energy Harvesting And Storage Application	4 Weeks	https://online.vtu.ac.in/course-details/selec tion-of-nanomaterials-for-energy-harvesting- and-storage-application	1
10	Mechanical Engineering	Structural Analysis Of Nanomaterials	4 Weeks	https://online.vtu.ac.in/course-details/struc tural-analysis-of-nanomaterials	1

11	Mechanical Engineering	Introduction To Mechanical Vibration	8 Weeks	https://online.vtu.ac.in/course-details/intro duction-to-mechanical-vibration	2
12	Mechanical Engineering	Fundamentals Of Manufacturing Processes	12 Weeks	https://online.vtu.ac.in/course-details/fund amentals-of-manufacturing-processes	3
13	Mechanical Engineering	Design Of Mechatronic Systems	12 Weeks	https://online.vtu.ac.in/course-details/desig <u>n-of-mechatronic-systems</u>	3
14	Mechanical Engineering	Functional And Conceptual Design	12 Weeks	https://online.vtu.ac.in/course-details/funct ional-and-conceptual-design	3
15	Mechanical Engineering	Advanced Machining Processes	12 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Machining-Processes	3
16	Mechanical Engineering	Advanced Robotics	12 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Robotics	3
17	Mechanical Engineering	Applied Ergonomics	12 Weeks	https://online.vtu.ac.in/course-details/appli ed-ergonomics	3
18	Mechanical Engineering	Automatic Control	8 Weeks	https://online.vtu.ac.in/course-details/auto matic-control	2
19	Mechanical Engineering	Computational Fluid Dynamics For Incompressible Flows	12 Weeks	https://online.vtu.ac.in/course-details/Com putational-Fluid-Dynamics-for-Incompressibl e-Flows	3
20	Mechanical Engineering	Convective Heat Transfer	4 Weeks	https://online.vtu.ac.in/course-details/conv ective-heat-transfer	1

21	Mechanical Engineering	Data-Enabled Tribological Engineering: From Experiments to Predictive Models	12 Weeks	https://online.vtu.ac.in/course-details/data- enabled-tribological-engineering-from-experi ments-to-predictive-models	3
22	Mechanical Engineering	Electronic Packaging and Manufacturing	8 Weeks	https://online.vtu.ac.in/course-details/electr onic-packaging-and-manufacturing-482020	2

23	Mechanical Engineering	Experimental Stress Analysis	12 Weeks	https://online.vtu.ac.in/course-details/Expe rimental-Stress-Analysis	3
24	Mechanical Engineering	Fundamental Of Welding Science And Technology	8 Weeks	https://online.vtu.ac.in/course-details/fund amental-of-welding-science-and-technology-6 <u>47492</u>	2
25	Mechanical Engineering	Fundamentals of Combustion	12 Weeks	https://online.vtu.ac.in/course-details/Fund amentals-of-Combustion	3
26	Mechanical Engineering	Fundamentals Of Nuclear Power Generation	12 weeks	https://online.vtu.ac.in/course-details/Fund amentals-Of-Nuclear-Power-Generation	3
27	Mechanical Engineering	Heat Transfer and Combustion in Multiphase Systems	8 Weeks	https://online.vtu.ac.in/course-details/heat- transfer-and-combustion-in-multiphase-syste <u>ms</u>	2
28	Mechanical Engineering	Inspection And Quality Control In Manufacturing	4 Weeks	https://online.vtu.ac.in/course-details/inspe ction-and-quality-control-in-manufacturing	1

29	Mechanical Engineering	Manufacturing Automation	4 Weeks	https://online.vtu.ac.in/course-details/man ufacturing-automation	1
30	Mechanical Engineering	Manufacturing Guidelines For Product Design	8 Weeks	https://online.vtu.ac.in/course-details/Man ufacturing-Guidelines-For-Product-Design-87 2170	2
31	Mechanical Engineering	Mechanical Measurement Systems	8 Weeks	https://online.vtu.ac.in/course-details/mech anical-measurement-systems	2

32	Mechanical Engineering	Phase Transformation in Materials	12 Weeks	https://online.vtu.ac.in/course-details/Phas e-Transformation-in-Materials	3
33	Mechanical Engineering	Processing of Polymers and Polymer Composites	8 Weeks	https://online.vtu.ac.in/course-details/Proc essing-of-Polymers-and-Polymer-Composites	2
34	Mechanical Engineering	Product Design and Manufacturing	12 Weeks	https://online.vtu.ac.in/course-details/Prod uct-Design-and-Manufacturing	3
35	Mechanical Engineering	Product Engineering and Design Thinking	8 Weeks	https://online.vtu.ac.in/course-details/Prod uct-Engineering-and-Design-Thinking	2
36	Mechanical Engineering	Robotics: Basics and Selected Advanced Concepts	12 Weeks	https://online.vtu.ac.in/course-details/Robo tics-Basics-and-Selected-Advanced-Concepts	3
37	Mechanical Engineering	Mechanics of Sheet Metal Forming	8 Weeks	https://online.vtu.ac.in/course-details/Mec hanics-of-Sheet-Metal-Forming	2

38	Mechanical Engineering	Mechatronics	8 Weeks	https://online.vtu.ac.in/course-details/Mec hatronics-858659	2
39	Mechanical Engineering	Smart Materials and Intelligent System Design	4 Weeks	https://online.vtu.ac.in/course-details/Smar t-Materials-and-Intelligent-System-Design-60 <u>8823</u>	1

	ELECTRICAL AND ELECTRONICS ENGINEERING								
Sl. No	Discipline	Course Name	Duration	Course Link	Credits				
1	Electrical and Electronics Engineering	Design of Photovoltaic Systems	12 Weeks	https://online.vtu.ac.in/course-details/desig <u>n-of-photovoltaic-systems</u>	3				
2	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	https://online.vtu.ac.in/course-details/Smar t-Grid-Basics-To-Advanced-Technologies	3				
3	Electrical and Electronics Engineering	Advances In Uhv Transmission And Distribution	8 Weeks	https://online.vtu.ac.in/course-details/adva nces-in-uhv-transmission-and-distribution	2				

4	Electrical and Electronics Engineering	Enclosure Design Of Electronics Equipment	12 Weeks	https://online.vtu.ac.in/course-details/enclo sure-design-of-electronics-equipment	3
5	Electrical and Electronics Engineering	Microelectronics: Devices To Circuits	12 Weeks	https://online.vtu.ac.in/course-details/Micr oelectronics-Devices-To-Circuits	3

6	Electrical and Electronics Engineering	Advanced Linear Continuous Control Systems: Applications With Matlab Programming And Simulink	8 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Linear-Continuous-Control-Systems-A pplications-With-Matlab-Programming-And- Simulink	2
7	Electrical and Electronics Engineering	Dc Microgrid And Control Systems	8 Weeks	https://online.vtu.ac.in/course-details/dc-m icrogrid-and-control-systems	2
8	Electrical and Electronics Engineering	Electrical Distribution System Analysis	8 Weeks	https://online.vtu.ac.in/course-details/electr ical-distribution-system-analysis	2
9	Electrical and Electronics Engineering	Digital Control in Switched Mode Power Converters and FPGA-based Prototyping	12 Weeks	https://online.vtu.ac.in/course-details/digit al-control-in-switched-mode-power-converter s-and-fpga-based-prototyping	3
10	Electrical and Electronics Engineering	VLSI Interconnects	8 Weeks	https://online.vtu.ac.in/course-details/vlsi-i nterconnects	2
11	Electrical and Electronics Engineering	System Design Through Verilog	8 Weeks	<u>https://online.vtu.ac.in/course-details/syste</u> <u>m-design-through-verilog</u>	2
12	Electrical and Electronics Engineering	Applied Electromagnetics For Engineers	12 Weeks	https://online.vtu.ac.in/course-details/Appl ied-Electromagnetics-For-Engineers	3
13	Electronics and Communication	Analog Circuits	8 Weeks	https://online.vtu.ac.in/course-details/Anal og-Circuits	2
14	Electronics and Communication	Analog Ic Design	12 Weeks	https://online.vtu.ac.in/course-details/Anal og-Ic-Design	3

15	Electronics and Communication	CMOS Digital VLSI Design	8 Weeks	<u>https://online.vtu.ac.in/course-details/CM</u> <u>OS-Digital-VLSI-Design</u>	2
16	Electronics and Communication	Computer Vision And Image Processing - Fundamentals And Applications	12 Weeks	https://online.vtu.ac.in/course-details/com puter-vision-and-image-processing-fundame ntals-and-applications-973141	3
17	Electronics and Communication	Electronics Enclosures Thermal issues	8 Weeks	https://online.vtu.ac.in/course-details/electr onics-enclosures-thermal-issues	2
18	Electronics and Communication	Foundations of Wavelets and Multirate Digital Signal Processing	4 Weeks	https://online.vtu.ac.in/course-details/foun dations-of-wavelets-and-multirate-digital-sig nal-processing	1
19	Electronics and Communication	Medical Image Analysis	4 Weeks	https://online.vtu.ac.in/course-details/Medi cal-Image-Analysis	1
20	Electronics and Communication	Microwave Integrated Circuits	8 Weeks	https://online.vtu.ac.in/course-details/micr owave-integrated-circuits	2
21	Electronics and Communication	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	https://online.vtu.ac.in/course-details/Opti cal-Wireless-Communications-for-Beyond-5G -Networks-and-IoT	3
22	Electronics and Communication	Physics of Nanoscale Devices	12 Weeks	https://online.vtu.ac.in/course-details/Phys ics-of-Nanoscale-Devices	3
23	Electronics and Communication	Power Management Integrated Circuits	12 Weeks	https://online.vtu.ac.in/course-details/Pow er-Management-Integrated-Circuits	3

24	Electronics and Communication	Power System Dynamics, Control and Monitoring	12 Weeks	https://online.vtu.ac.in/course-details/pow er-system-dynamics-control-and-monitoring	3			
25	Electronics and Communication	Recent Advances in Transmission Insulators	4 Weeks	https://online.vtu.ac.in/course-details/recen t-advances-in-transmission-insulators-897570	1			
26	Electronics and Communication	Semiconductor device modeling and Simulation	12 Weeks	https://online.vtu.ac.in/course-details/Semi conductor-device-modeling-and-Simulation	3			
27	Electronics and Communication	Design Of Power Electronic Converters	8 Weeks	https://online.vtu.ac.in/course-details/Desi gn-of-Power-Electronic-Converters	2			
	TEXTILE ENGINEERING							
Sl. No	Discipline	Course Name	Duration	Course Link	Credits			
	2 r		2		cicuits			
1	Textile Engineering	Principles Of Combing, Roving Preparation & Ring Spinning	12 Weeks	https://online.vtu.ac.in/course-details/princ iples-of-combing-roving-preparation-ring-spi nning	3			
	Textile	Principles Of Combing, Roving		https://online.vtu.ac.in/course-details/princ iples-of-combing-roving-preparation-ring-spi				
1	Textile Engineering Textile	Principles Of Combing, Roving Preparation & Ring Spinning Yarn Manufacture I : Principle Of	12 Weeks	https://online.vtu.ac.in/course-details/princ iples-of-combing-roving-preparation-ring-spi nning https://online.vtu.ac.in/course-details/yarn manufacture-i-principle-of-opening-carding-a	3			
1	Textile Engineering Textile Engineering Textile	Principles Of Combing, Roving Preparation & Ring Spinning Yarn Manufacture I : Principle Of Opening, Carding And Drawing	12 Weeks 12 Weeks	https://online.vtu.ac.in/course-details/princ iples-of-combing-roving-preparation-ring-spi iples-of-combing-roving-preparation-ring-spi nning https://online.vtu.ac.in/course-details/yarn manufacture-i-principle-of-opening-carding-a nd-drawing https://online.vtu.ac.in/course-details/Tech	3			

6	Textile Engineering	Science And Technology Of Weft And Warp Knitting	12 Weeks	https://online.vtu.ac.in/course-details/scien ce-and-technology-of-weft-and-warp-knitting	3			
7	Textile Engineering	Advanced Textile Printing Technology	8 Weeks	https://online.vtu.ac.in/course-details/adva nced-textile-printing-technology-933620	2			
8	Textile Engineering	Testing of Functional and Technical Textiles	8 Weeks	https://online.vtu.ac.in/course-details/testing_of-functional-and-technical-textiles	2			
9	Textile Engineering	Textile Product Design and Development	12 Weeks	https://online.vtu.ac.in/course-details/textil e-product-design-and-development	3			
10	Textile Engineering	Textured Yarn Technology	12 Weeks	https://online.vtu.ac.in/course-details/Text ured-Yarn-Technology	3			
	GENERAL							
Sl. No	Discipline	Course Name	Duration	Course Link	Credits			
Sl. No	Discipline Economics	Course Name Economics Of Banking And Finance Markets	Duration 12 Weeks	Course Link https://online.vtu.ac.in/course-details/econ omics-of-banking-and-finance-markets	Credits 3			
	-	Economics Of Banking And		https://online.vtu.ac.in/course-details/econ				
1	Economics	Economics Of Banking And Finance Markets Introduction To Research New	12 Weeks	https://online.vtu.ac.in/course-details/econ omics-of-banking-and-finance-markets https://online.vtu.ac.in/course-details/Intro	3			
1 2	Economics Multidisciplinary	Economics Of Banking And Finance Markets Introduction To Research New title: Research Methodology Solar Energy Engineering And	12 Weeks 8 Weeks	https://online.vtu.ac.in/course-details/econ omics-of-banking-and-finance-markets https://online.vtu.ac.in/course-details/Intro duction-to-Research-Research-Methodology https://online.vtu.ac.in/course-details/solar	3			
1 2 3	Economics Multidisciplinary Multidisciplinary Humanities and	Economics Of Banking And Finance Markets Introduction To Research New title: Research Methodology Solar Energy Engineering And Technology	12 Weeks 8 Weeks 12 Weeks	https://online.vtu.ac.in/course-details/econ omics-of-banking-and-finance-markets https://online.vtu.ac.in/course-details/Intro duction-to-Research-Research-Methodology https://online.vtu.ac.in/course-details/solar -energy-engineering-and-technology https://online.vtu.ac.in/course-details/techn	3 2 3			

7	Humanities and Social Sciences	German - I	12 Weeks	<u>https://online.vtu.ac.in/course-details/Ger</u> <u>man-I</u>	3
8	Humanities and Social Sciences	The Science of Happiness and Wellbeing	8 Weeks	https://online.vtu.ac.in/course-details/TheS cience-of-Happiness-and-Wellbeing-528390	2
9	Mathematics	Calculus For Economics,Commerce And Management	8 Weeks	https://online.vtu.ac.in/course-details/Calc ulus-For-EconomicsCommerce-And-Manage <u>ment</u>	2
10	Mathematics	Advanced Engineering Mathematics	12 Weeks	https://online.vtu.ac.in/course-details/adva nced-engineering-mathematics	3
11	Management	Entrepreneurship	12 Weeks	https://online.vtu.ac.in/course-details/Entre preneurship	3
12	Management	E-Business	12 Weeks	https://online.vtu.ac.in/course-details/E-Bu siness	3
13	Electrical and Electronics Engineering	An Introduction To Coding Theory	8 Weeks	https://online.vtu.ac.in/course-details/an-in troduction-to-coding-theory	2
14	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	https://online.vtu.ac.in/course-details/Smar t-Grid-Basics-To-Advanced-Technologies	3
15	Computer Science and Engineering	Cloud Computing	12 Weeks	https://online.vtu.ac.in/course-details/Clou <u>d-Computing</u>	3
16	Computer Science and Engineering	Introduction To Machine Learning - IITKGP	8 Weeks	https://online.vtu.ac.in/course-details/Intro duction-to-Machine-Learning	2
17	Computer Science and Engineering	Programming In Java	12 Weeks	https://online.vtu.ac.in/course-details/Prog ramming-In-Java	3
18	Physics	Introduction To Astrophysical Fluids	12 Weeks	https://online.vtu.ac.in/course-details/Intro duction-To-Astrophysical-Fluids	3

19	Physics	Advanced Quantum Mechanics With Applications	8 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Quantum-Mechanics-With-Application <u>S</u>	2
20	Mechanical Engineering	Applied Thermodynamics For Engineers	12 Weeks	https://online.vtu.ac.in/course-details/Appl ied-Thermodynamics-For-Engineers	3

	CHEMICAL ENGINEERING							
Sl. No	Discipline	Course Name	Duration	Course Link	Credits			
1	Chemical Engineering	Colloids And Surfaces	8 Weeks	https://online.vtu.ac.in/course-details/Collo ids-And-Surfaces	2			
2	Chemical Engineering	Chemical Process Intensification	12 Weeks	https://online.vtu.ac.in/course-details/Che mical-Process-Intensification	3			
3	Chemical Engineering	Transport Phenomena Of Non-Newtonian Fluids	12 Weeks	<u>https://online.vtu.ac.in/course-details/Tran</u> sport-Phenomena-Of-Non-Newtonian-	3			
4	Chemical Engineering	Natural Gas Engineering	8 Weeks	https://online.vtu.ac.in/course-details/Natu ral-Gas-Engineering	2			
5	Chemical Engineering	Aspen Plus® Simulation Software A Basic Course For Beginners	12 Weeks	https://online.vtu.ac.in/course-details/Aspe n-Plus%C2%AE-Simulation-Software-A-Basic -Course-For-Beginners	3			
6	Chemical Engineering	Chemical Process Control	8 Weeks	https://online.vtu.ac.in/course-details/chem ical-process-control	2			
7	Chemical Engineering	Trace And Ultra-Trace Analysis Of Metals Using Atomic Absorption Spectrometry	8 Weeks	https://online.vtu.ac.in/course-details/trace -and-ultra-trace-analysis-of-metals-using-ato mic-absorption-spectrometry	2			

8	Chemical Engineering	Mechanical Operations	4 Weeks	https://online.vtu.ac.in/course-details/mech anical-operations	1
9	Chemical Engineering	Equipment Design: Mechanical Aspects	4 Weeks	https://online.vtu.ac.in/course-details/equi pment-design-mechanical-aspects	1
10	Chemical Engineering	Chemical Process Safety	12 Weeks	https://online.vtu.ac.in/course-details/chem ical-process-safety	3
11	Chemical Engineering	Basic Environmental Engineering And Pollution Abatement	12 Weeks	https://online.vtu.ac.in/course-details/basic -environmental-engineering-and-pollution-ab <u>atement</u>	3
12	Chemical Engineering	Technologies For Clean And Renewable Energy Production	8 Weeks	https://online.vtu.ac.in/course-details/techn ologies-for-clean-and-renewable-energy-prod uction	2
13	Chemical Engineering	Hydrogen Energy: Production, Storage, Transportation And Safety	12 Weeks	https://online.vtu.ac.in/course-details/hydr ogen-energy-production-storage-transportati on-and-safety	3

	EL-BM-ML							
Sl. No	Discipline	Course Name	Duration	Course Link	Credits			
1	Electrical, Electronics and Communications Engineering	Fundamentals Of Micro And Nanofabrication	12 Weeks	https://online.vtu.ac.in/course-details/Fund amentals-Of-Micro-And-Nanofabrication	3			
2	Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	https://online.vtu.ac.in/course-details/Getti ng-Started-with-Competitive-Programming	3			
3	Computer Science and Engineering	Social Network Analysis	12 Weeks	https://online.vtu.ac.in/course-details/socia <u>l-network-analysis</u>	3			
4	Computer Science and Engineering	Design & Implementation Of Human-Computer Interfaces	12 Weeks	https://online.vtu.ac.in/course-details/Desi gn-Implementation-Of-Human-Computer-Int <u>erfaces</u>	3			
5	Computer Science and Engineering	Ethical Hacking	12 Weeks	https://online.vtu.ac.in/course-details/Ethic <u>al-Hacking</u>	3			
6	Computer Science and Engineering	Programming In Modern C++	12 Weeks	https://online.vtu.ac.in/course-details/prog ramming-in-modern-c	3			
7	Computer Science and Engineering	Data Structure And Algorithms Using Java	12 Weeks	https://online.vtu.ac.in/course-details/datas tructure-and-algorithms-using-java	3			
8	Computer Science and Engineering	Introduction To Algorithms And Analysis	12 Weeks	<u>https://online.vtu.ac.in/course-details/Intro</u> <u>duction-To-Algorithms-And-Analysis</u>	3			

9	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	https://online.vtu.ac.in/course-details/Goog le-Cloud-Computing-Foundations	2
10	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	https://online.vtu.ac.in/course-details/Artifi cial-Intelligence-Search-Methods-For-Proble m-Solving-IIT-Madras	3
11	Computer Science and Engineering	Python For Data Science	4 Weeks	https://online.vtu.ac.in/course-details/Pyth on-for-Data-Science	1
12	Electrical, Electronics and Communications Engineering	Discrete Time Signal Processing	8 Weeks	https://online.vtu.ac.in/course-details/Discr ete-Time-Signal-Processing	2
13	Electrical, Electronics and Communications Engineering	Fiber Optic Communication Technology	12 Weeks	<u>https://online.vtu.ac.in/course-details/Fiber</u> <u>-Optic-Communication-Technology</u>	3
14	Electrical, Electronics and Communications Engineering	Applied Optimization For Wireless, Machine Learning, Big Data	12 Weeks	https://online.vtu.ac.in/course-details/Appl ied-Optimization-For-Wireless-Machine-Lear ning-Big-Data-905635	3

	AUTOMOBILE ENGINEERING						
Sl. No	Discipline	Course Name	Duration	Course Link	Credits		
1	Mechanical Engineering	Computational Continuum Mechanics	12 Weeks	https://online.vtu.ac.in/course-details/com putational-continuum-mechanics	3		

2	Mechanical Engineering	Mechanism And Robot Kinematics	8 Weeks	https://online.vtu.ac.in/course-details/Mec hanism-And-Robot-Kinematics	2
3	Mechanical Engineering	Heat Exchangers: Fundamentals And Design Analysis	12 Weeks	https://online.vtu.ac.in/course-details/heate xchangers-fundamentals-and-design-analysi <u>S</u>	3
4	Mechanical Engineering	Power Plant Engineering	8 Weeks	https://online.vtu.ac.in/course-details/Pow er-Plant-Engineering	2
5	Mechanical Engineering	Fluid Dynamics And Turbomachines	8 Weeks	https://online.vtu.ac.in/course-details/Fluid -Dynamics-And-Turbomachines	2
6	Mechanical Engineering	Rapid Manufacturing	12 Weeks	https://online.vtu.ac.in/course-details/rapid -manufacturing	3
7	Mechanical Engineering	Conduction And Convection: Fundamentals And Applications	12 Weeks	https://online.vtu.ac.in/course-details/Con duction-And-Convection-Fundamentals-And -Applications	3
8	Management	Toyota Production System	8 Weeks	https://online.vtu.ac.in/course-details/Toyo ta-Production-System	2
9	Management	Manufacturing Strategy	8 Weeks	https://online.vtu.ac.in/course-details/man ufacturing-strategy	2
10	Management	Product And Brand Management	12 Weeks	https://online.vtu.ac.in/course-details/prod uct-and-brand-management	3
11	Management	Econometric Modelling	8 Weeks	https://online.vtu.ac.in/course-details/econ ometric-modelling	2
12	Management	Services Marketing : Integrating People, Technology, Strategy	8 Weeks	https://online.vtu.ac.in/course-details/servi ces-marketing-integrating-people-technology -strategy	2

13	Management	Innovation, Business Models And Entrepreneurship	8 Weeks	https://online.vtu.ac.in/course-details/inno vation-business-models-and-entrepreneurshi p	2	
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14	Management	Operations And Supply Chain Management	12 Weeks	https://online.vtu.ac.in/course-details/oper ations-and-supply-chain-management	3
15	Management	Design Thinking - A Primer	4 Weeks	https://online.vtu.ac.in/course-details/Desi gn-Thinking-A-Primer	1

ELECTRONICS AND COMMUNICATION ENGINEERING						
Sl. No	Discipline	Course Name	Duration	Course Link	Credits	
1	Electronics and Communication Engineering	Artificial Intelligence : Search methods for problem solving	12 Weeks	https://online.vtu.ac.in/course-details/Artifi cial-Intelligence-Search-Methods-For-Proble <u>m-Solving-IIT-Madras</u>	3	
2	Electronics and Communication Engineering	Understanding Incubation and Enterprenurship	12 Weeks	https://online.vtu.ac.in/course-details/Und erstanding-Incubation-and-Entrepreneurship <u>839780</u>	3	
3	Electronics and Communication Engineering	Learning Anlystics Tools	12 Weeks	https://online.vtu.ac.in/course-details/Lear ning-Analytics-Tools	3	
4	Electronics and Communication Engineering	Operations Research	8 Weeks	https://online.vtu.ac.in/course-details/Oper ations-Research	2	
5	Electronics and Communication Engineering	Intellactual Property Rigths and Competition Law	8 Weeks	https://online.vtu.ac.in/course-details/Intell ectual-Property-Rights-and-Competition-Law	2	
6	Electronics and Communication Engineering	Big Data Computing	8 Weeks	https://online.vtu.ac.in/course-details/BIG- DATA-COMPUTING	2	
7	Electronics and Communication Engineering	Modern Digital Communication Techniques	12 Weeks	https://online.vtu.ac.in/course-details/Mod ern-digital-communication-techniques	3	

8	Electronics and Communication Engineering	Advanced Linear Continuous Control Systems: Applications With Matlab Programming And	8 Weeks	https://online.vtu.ac.in/course-details/Adv anced-Linear-Continuous-Control-Systems-A pplications-With-Matlab-Programming-And- Simulink	2
		Simulink			