# Certificate Program on Financial Market and Modelling

**Janki Devi Memorial College,**
**University of Delhi**

Department of Economics

**Title of Certificate course of 40 hours duration - Certificate Program on Financial Markets and Modelling**

**Offered by- Meghnad Desai Academy of Economics (MDAE) in collaboration with Janki Devi Memorial College and Ket's VG Vaze College (Autonomous)**

**Date of Commencement** – 29th August 2021

**Date of Ending of the course** – 9th October 2021

Being financially educated is very important nowadays. Buy and sell of stocks, options, futures, and other securities this all happens in financial markets. It is the financial market which creates securities for investments. These securities were traded between lenders and borrowers in order to earn returns on the securities. So knowledge of various assets, and securities are very important for both lenders and borrowers. In this spirit, 40 hours of instructor-led, live and interactive certificate program on Financial Markets and Modelling was conducted by Meghnad Desai Academy of Economics in collaboration with Janki Devi Memorial College and Ket's VG Vaze College.

Mr. Vignesh Iyer, Principal Engineer at State Street Bank & visiting faculty at IIMs, NMIMS, SP Jain Mumbai was the resource person for the program. Dr. Shilpa Chaudhary, Assistant Professor, Department of Economics, Janki Devi Memorial College was the course coordinator.

The Memorandum of Understanding (MOU) was made on 12th August, 2021 between Janki DeviMemorial College, University of Dethi, Sir Ganga Ram Hospital Marg, New Delhi-110060 and Meghnad Desai Academy of Economics (MDAE).

## Outline and Output of course

This course was designed with the aim:

- Introduce beginners to the financial markets and modelling
- Building synergies between various model
- Learn various financial Calculations and Methods of corporate valuation
- Various Portfolio Models and Option market strategies and models
- Understanding Risk and Assets Pricing
- Knowledge on various types of financial Markets

This course was liked by the participants and was successful.

40 Hours (30 Hours Teaching and 10 Hours project and assignment) | Live Online Certification |

1 session of resume building and interview skills

29th August, 2021- 9th October, 2021: Saturday and Sunday: 1-3:30 pm

### Evaluation Method

2 Assignments and one Industry-led 10 hours Project

## **Modules/Units along with Learning Outcomes for each module:**

| **S.N.O** | **Topic** | **Learning Outcomes** |
|---|---|---|
| **1.** | Financial Markets and Players<br>(Inaugural session) | • Role of Governments in Financial Markets<br>• Financial Institutions, Financial Intermediaries, and Asset Management Firms<br>• Overview of Private Market Participants<br>• Credit Rating Agencies and Their Role in Financial Markets<br>• Depository Institutions: Activities and Characteristics<br>• Central Banks<br>• Insurance Companies |

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| | | • Investment Banking Firms |
| **2.** | Understanding Risks and Asset Pricing | ○ Overview of Risks and Their Management<br>○ Properties and Pricing of Financial Assets<br>○ Return Distributions, Risk Measures, and Risk-Return Ratios<br>○ Portfolio Selection Theory<br>○ Asset Pricing Theories |
| **3.** | Interest Rates, Interest Rate Risk, and Credit Risk<br><br>Primary and Secondary Markets | ○ The Theory of Interest Rates<br>○ The Structure of Interest Rates<br>○ Primary Markets<br>○ Secondary Markets<br>○ The Foreign Exchange Market |
| **4.** | Global Government Debt Markets<br><br>Corporate Funding Markets | ○ Sovereign Debt Markets<br>○ Subnational (Municipal) Government Debt Markets<br>○ The Structure and Trading Venues of the Equity Market<br>○ U.S. Common Stock Market: Pricing Efficiency, Trading, and Investment Strategies<br>○ Non-U.S. Equity Markets |

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|---|---|---|
| | | ○ Global Short-Term Funding and Investing Markets<br>○ Corporate Debt Markets<br>○ Market for Asset-Backed Securities<br>○ Financing Market for Small, Medium-Sized, and Entrepreneurial Enterprises |
| **5.** | Real Estate Markets<br><br>Collective Investment Vehicles and<br><br>Financial Derivatives Markets | • The Residential Mortgage Market<br>• Residential Mortgage-Backed Securities Market<br>• Commercial Real Estate Markets<br>• Market for Collective Investment Vehicles<br>• Financial Futures Markets<br>• Options Markets<br>• Pricing Futures and Options Contracts<br>• Applications of Futures and Options Contracts<br>• Over-the-Counter Interest Rate Derivatives: Forward Rate Agreements, Swaps, Caps, and Floors<br>• Market for Foreign Exchange Derivatives<br>• Market for Credit Risk Transfer Vehicles<br>- |
| **6.** | Basic Financial Calculations | • PV and NPV<br>• IRR and Loan tables<br>• Future Value |

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| **7.** | Corporate Valuation | • Cash flows<br>• WACC |
| **8.** | Portfolio Models | ○ Introduction<br>○ Efficient Frontier<br>○ Variance Covariance Matrix |
| **9.** | Portfolio Theory and Model | ● Betas and Security Market Line<br>● Black-Litterman approach to Portfolio Optimization<br>● Event Studies |
| **10.** | Options Models | - Option Pricing Model<br>- Black Scholes Model<br>- |
| **11.** | Bonds | ○ Durations<br>○ Convexity<br>○ Default Adjusted expected bond returns |
| **12.** | Monte Carlo Methods | ○ Simulation of Stock Prices<br>○ VaR<br>○ Option Pricing |

## Strong and weak points of course

| Strong Points | Weak Points |
|---|---|
| - Our resource person Mr. Vignesh Iyer, Principal Engineer at State Street Bank & visiting faculty at IIMs, NMIMS, SP Jain Mumbai. Knowledge from both world academics and real world | - The course would have been more effective if it was organized in physical mode |
| - Both theoretical and practical classes on basic financial calculations, corporate valuations, portfolio modelling to assets pricing, duration and Monte Carlo methods | |
| Indepth knowledge of different financial securities.<br>Financial markets will go a long way | |
| | |

**Number of Participants** – 26

List of students Enrolled

| Name | Email id |
|---|---|
| | |
| Tanisha Bhatt | tanishabhatt12@gmail.com |
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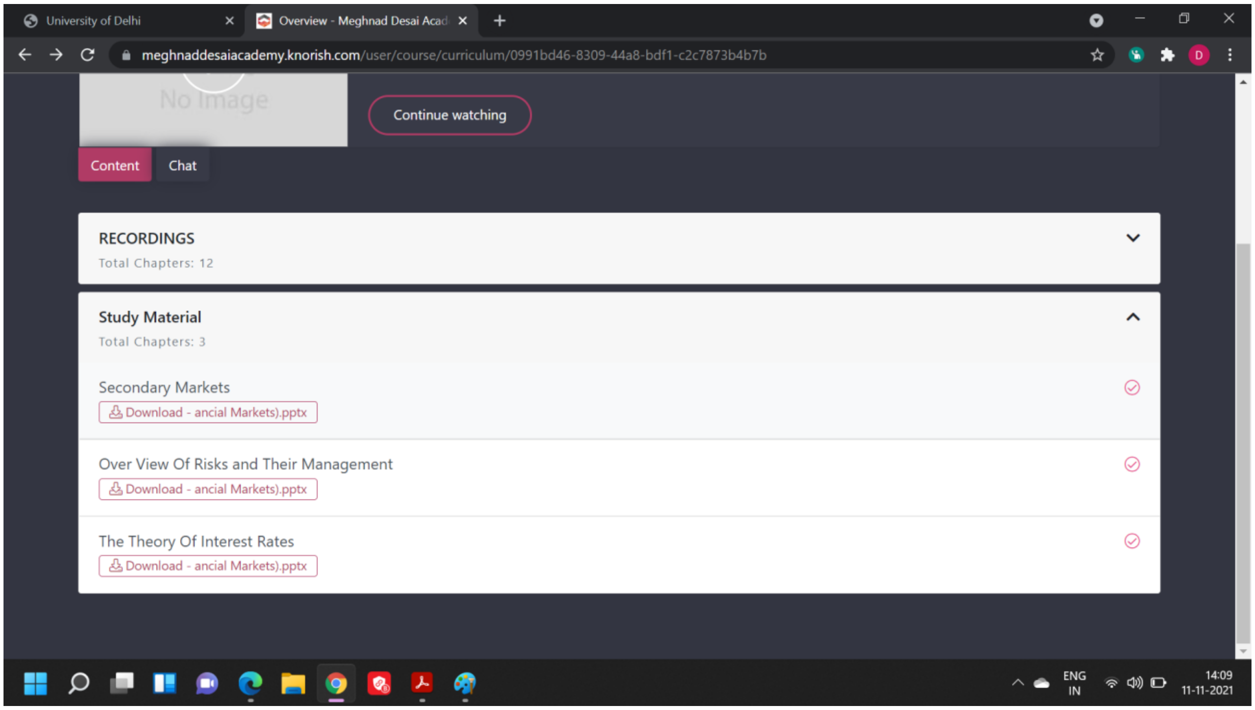
| Abhishek Vijaygopal | abhishek.vijaygopal@gmail.com |

## Poster and pictures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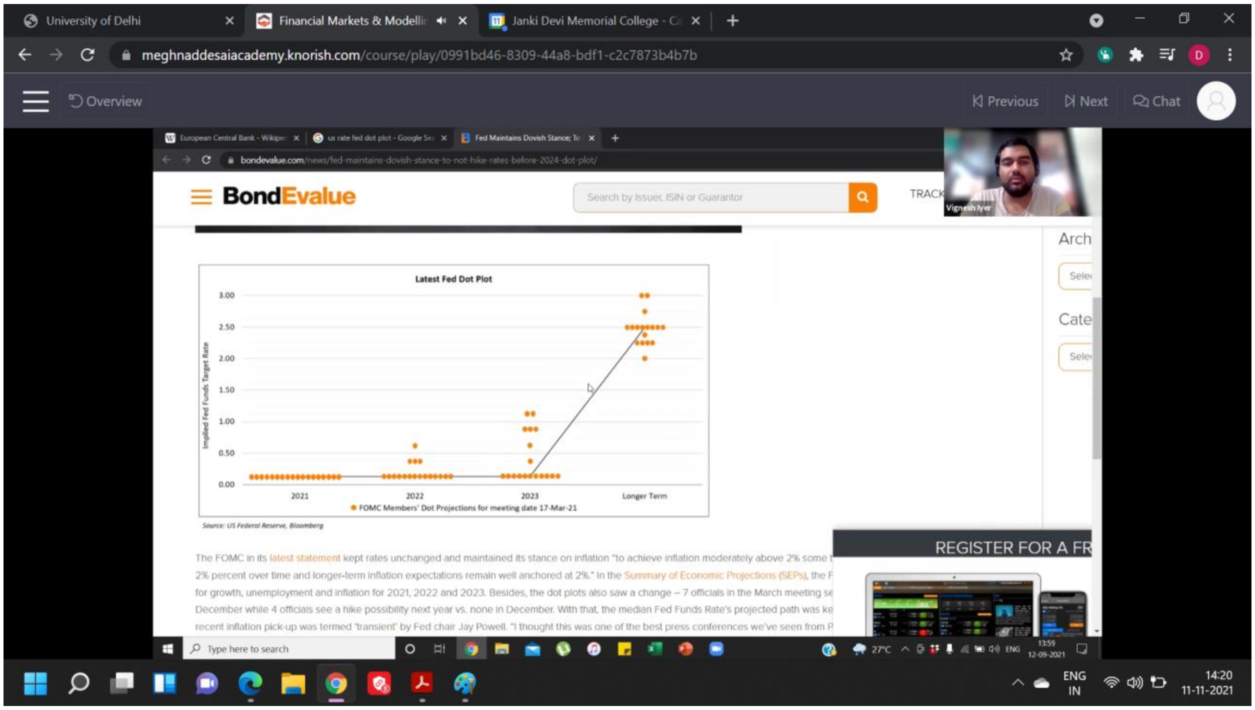
Classification by maturity of claim: Money market / Capital market
Classification by seasoning of claim: Primary market / Secondary market
Classification by immediate delivery or future delivery: Cash (spot) market / Derivatives market
Classification by organizational structure: Auction market / Over-the-counter market / Intermediated market
Classification by Region: Developed / Emerging / Frontier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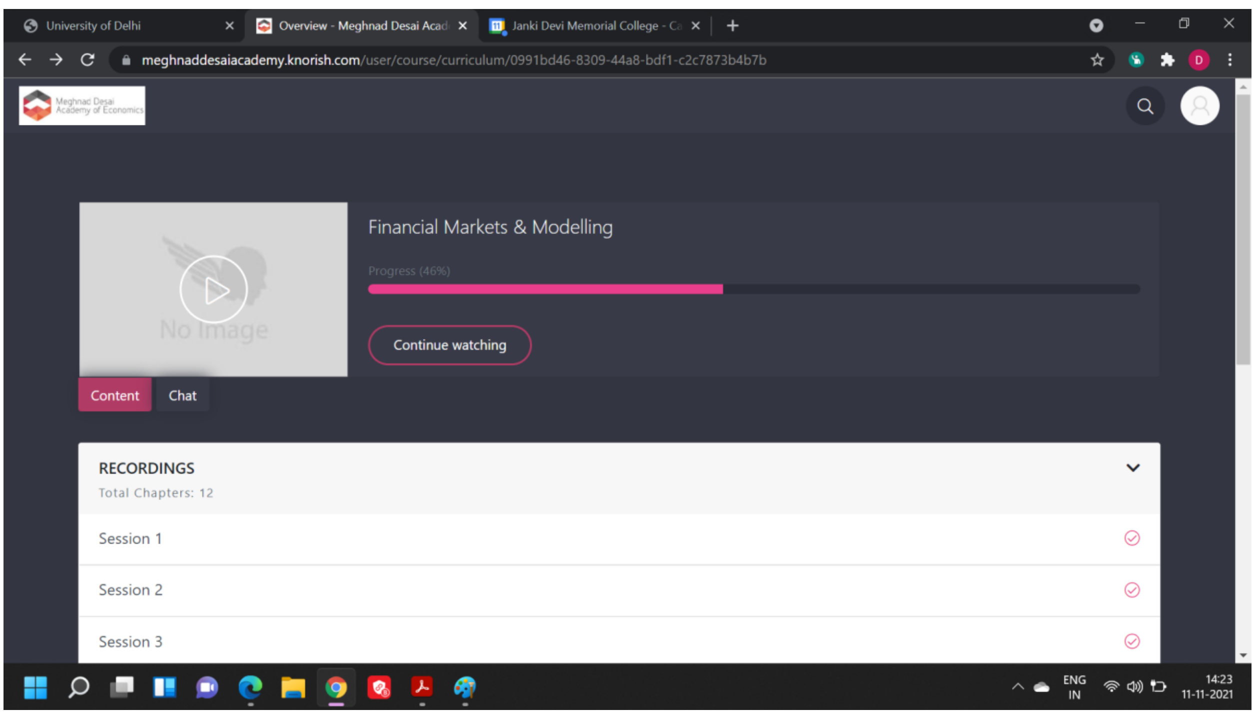
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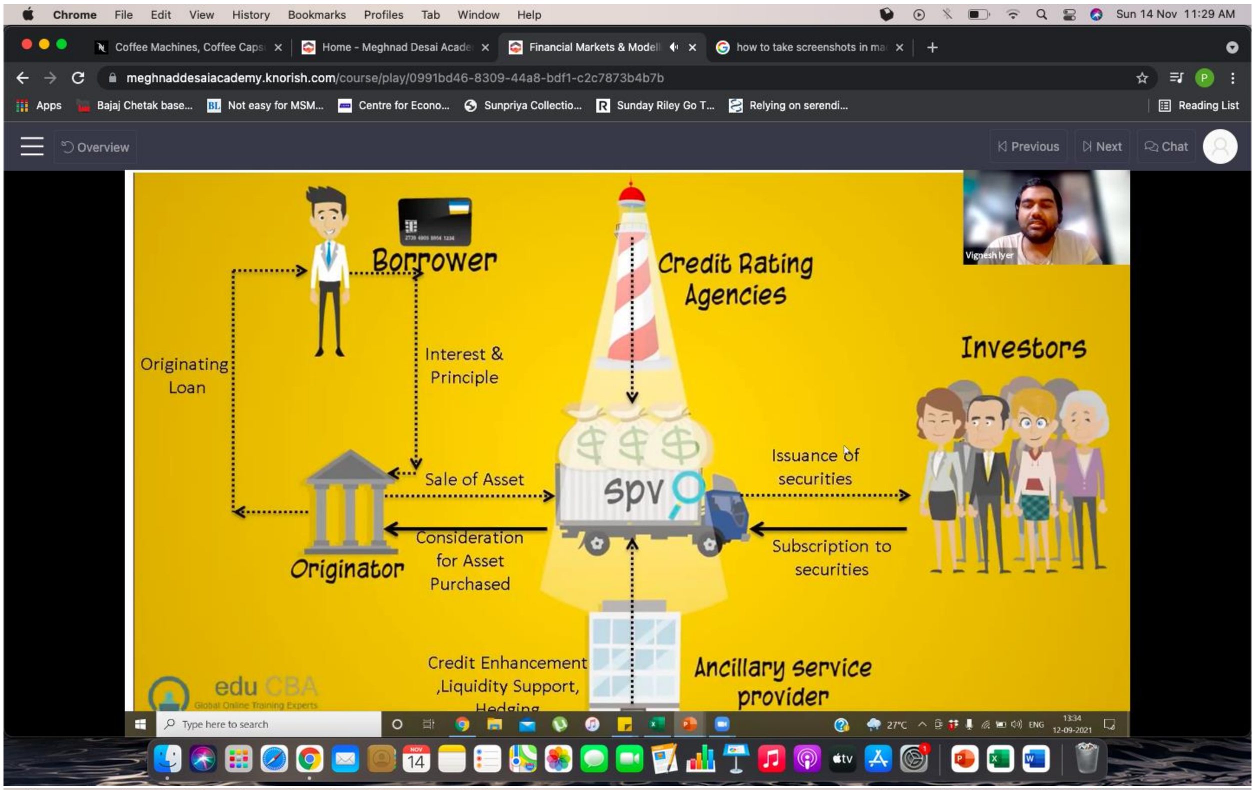
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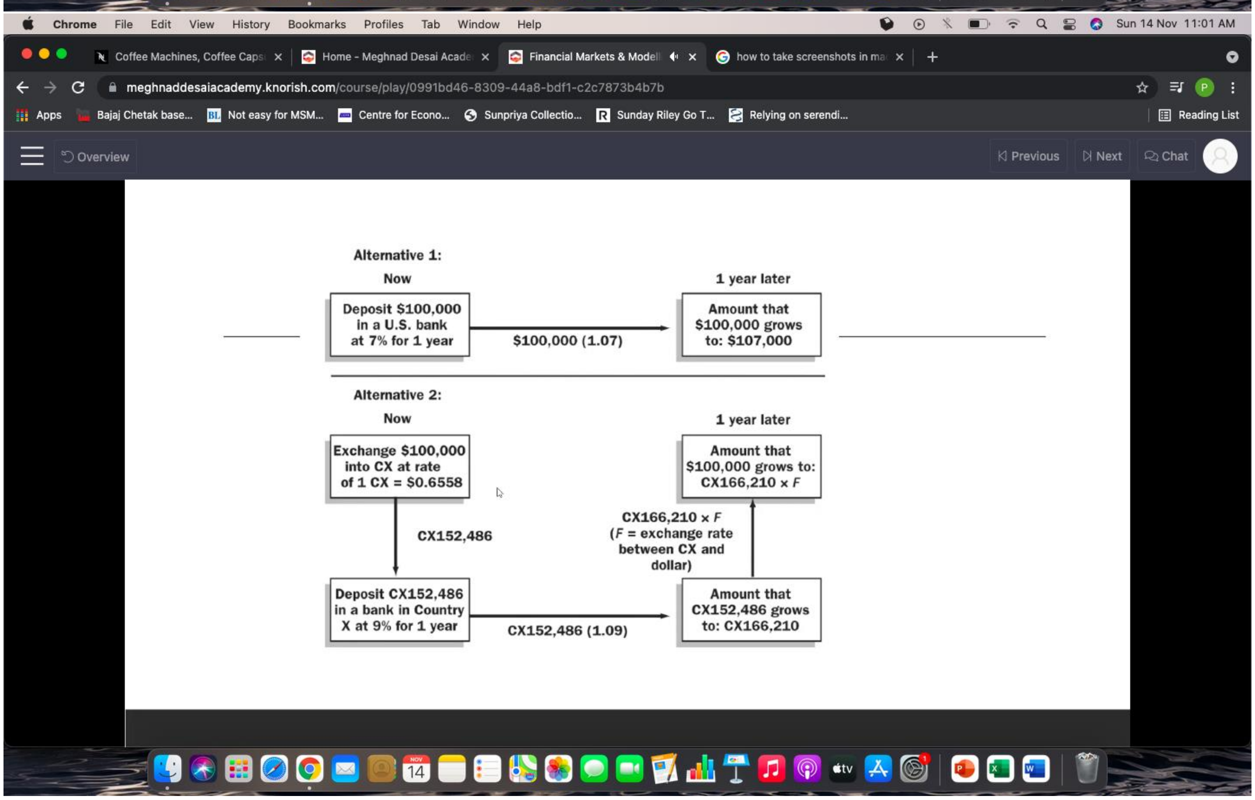
Alternative 1:
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Alternative 2:
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Exchange $100,000 into CX at rate of 1 CX = $0.6558
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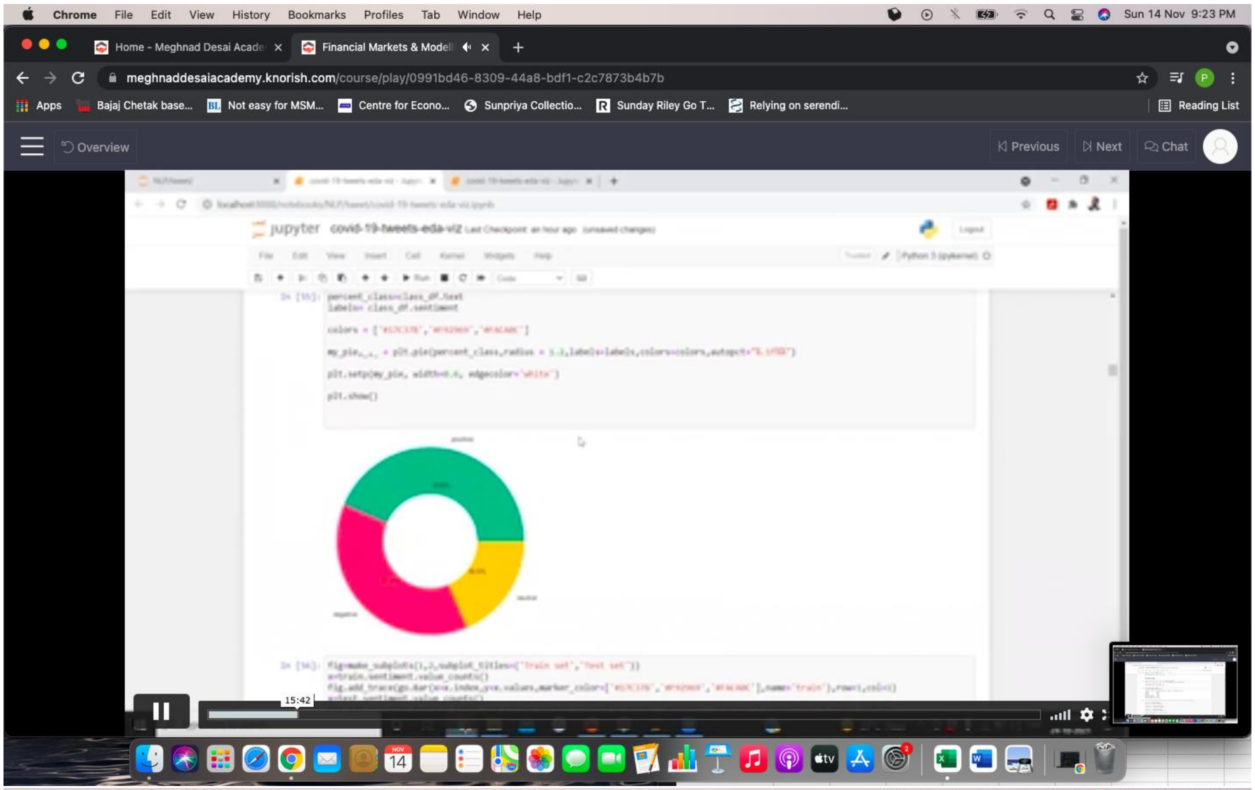
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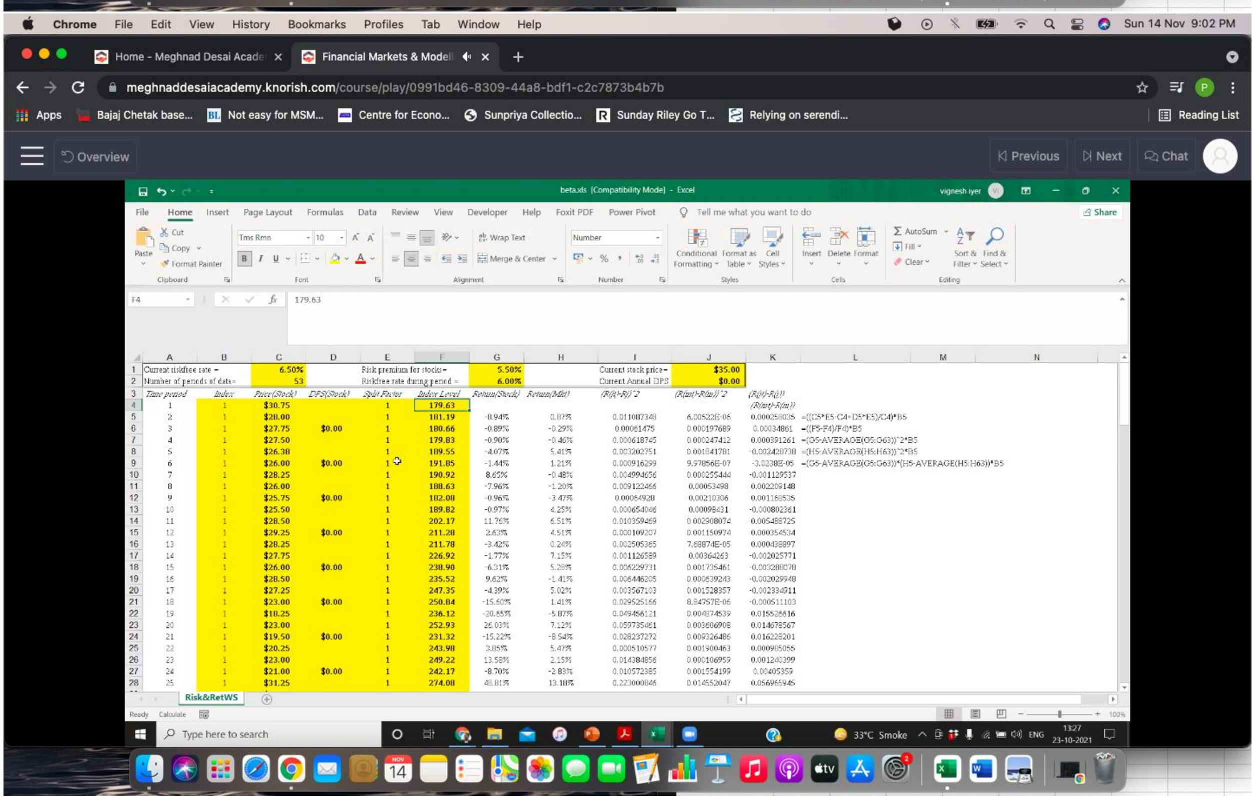
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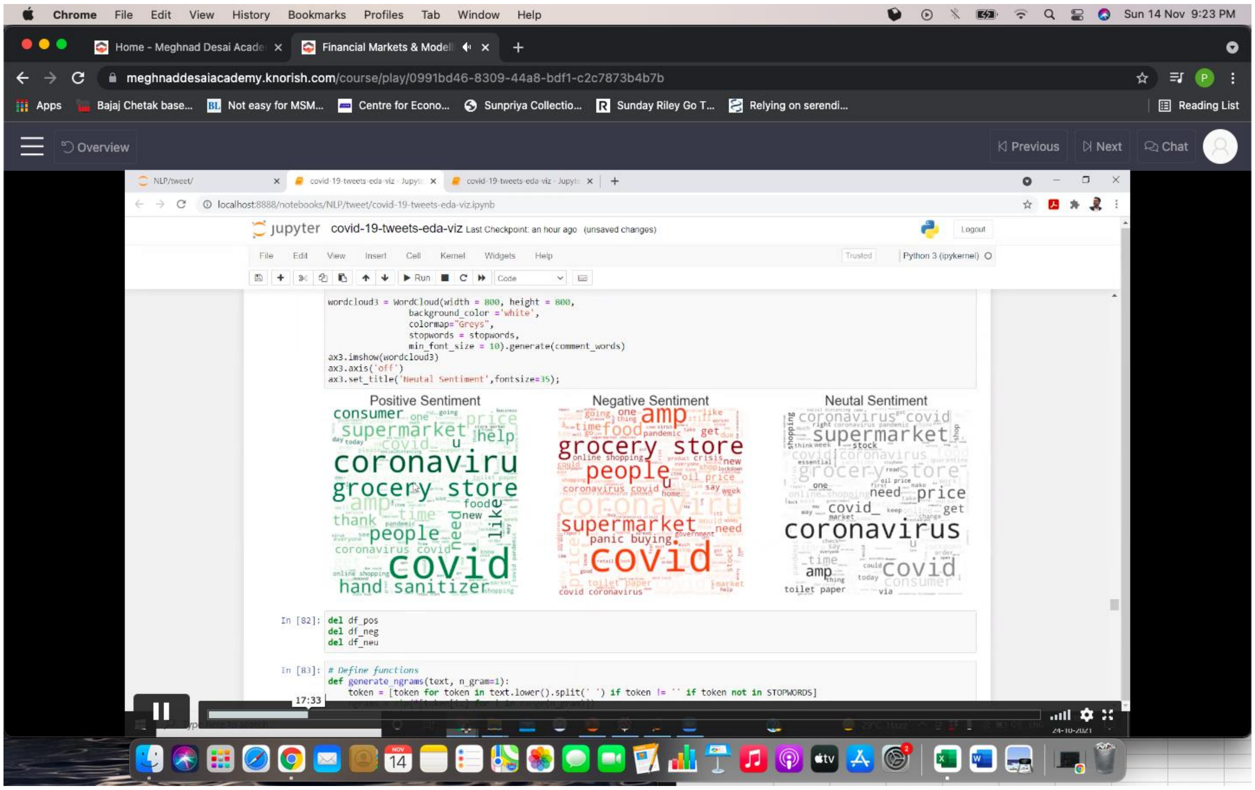


Sample Certificate

Memorendum of Understanding

Janki Devi Memorial College
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Meghnad Desai
Academy of Economi

12th August 2021

**Agreement for for Online Certificate Short-Term Courses for**

**Janki Devi Memorial College by MDAE**

To,

Janki Devi Memorial College

Meghnad Desai Academy of Economics (MDAE) is excited to collaborate with Janki Devi Memorial College for the purpose of jointly offering online certificate short-term courses to the students.

**What will the agreement entail?**

Responsibilities of MDAE:

- Design and delivery of the content of the entire program for all students for Course: financial markets and modelling: 40 hours (30 classroom teaching, 10 hours of assignments and live project).
- Sourcing and on-boarding of faculty.
- Providing the online delivery infrastructure (Zoom, EZ Talks).
- Designing and distribution of e-certificates.

Responsibilities of Janki Devi Memorial College:

- Distribute the course to students (open to students outside of Janki Devi Memorial College as well)

As MDAE and Janki Devi Memorial College will be jointly offering these courses. The certificate will comprise the logo and signature of both the institutes.

Course will be offered at a fees of Rs 2000 inclusive of GST for students of Janki Devi College and at a fees of Rs 2990+GST for students outside Janki Devi College.

1) 10% of revenue from students of Janki Devi College will be shared with the Janki Devi college.
2) Minimum number of students from the college: 35.

World Trade Centre (Mumbai), 12th Floor, Centre 1, Cuffe Parade. Mumbai – 400005

Tel: 022-22151321 Email:info@meghnaddesaiacademy.org

*A Spring Ivy Educational Services LLP Initiative*

Janki Devi Memorial College
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Meghnad Desai Academy of Economi

Fees will be collected by MDAE and shared with Janki Devi college in 7-10 days after the program start due to 7 days refund policy and both parties will be responsible for paying their respective due GST share.

**About MDAE:**

Meghnad Desai Academy of Economics (MDAE) is a post-graduate academy started by some of India's leading economists and financial professionals. MDAE was established in the year 2015 with the objective of training students to take up roles as market economists, data scientists, bankers, consultants and policy experts in the real world. Our board comprises Lord Meghnad Desai (Life Peer, House of Lords), Dr. Ajit Ranade (Chief economist, Birla Group), Tushar Podar (Macro Strategist, Wellington Management), Niranjan Rajadhyaksha (Research Director, IDFC Institute), PD Singh (MD, JP Morgan) and Mangal Goswami (Deputy Director, IMF). The focus of the curriculum is to develop quantitative, problem solving and analytics skills required for today's jobs.

Over the past 5 years, we have graduated over 130 students, who have found tremendous success in the corporate world. Students have been hired in the analytics space (Mu Sigma, Fractal Analytics, Think Analytics, Edelweiss Tokio), in Finance (Morgan Stanley, Deutsche Bank, RBS, JP Morgan), in consulting (Deloitte, Praxis, EY, JLL) and public policy (IDFC Institute, RBI, Gateway house).

P jain

For MDAE

Puneet Jain,
Director, Short-term courses, MDAE

For Janki Devi Memorial College

Swati Pal

Prof. Swati Pal,
Principal, Janki Devi Memorial College

प्राचार्य/Principal
जानकी देवी मेमोरियल महाविद्यालय
Janki Devi Memorial College
सर गंगा राम हॉस्पिटल मार्ग नई दिल्ली–110060
Sir Ganga Ram Hospital Marg, New Delhi-110060

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**1. Course Name:** Introduction to Financial Markets and Modelling

**2. Number of students keen to join:** To be shared by college. Minimum number of students: 35

**3. Tentative course timeline:** 29th August – 9th September, 2021 (Every Sat and Sun: 1-3:30 PM)

**4. Course Duration:** 40 hours (30 classroom teaching, 10 hours of assignments and live project)

**5. Course Objective:** This course will introduce beginners to the Financial Markets and Modelling

**6. Course Structure:**

**Session 1**

- Financial Markets and Players

**Session 2**

- Understanding Risks and Asset Pricing

**Session 3**

- Interest Rates, Interest Rate Risk, and Credit Risk
- Primary and Secondary Markets

**Session 4**

- Global Government Debt Markets
- Corporate Funding Markets

**Session 5**

- Real Estate Markets
- Collective Investment Vehicles and Financial Derivatives Markets

**Session 6**

- Basic Financial Calculations

**Session 7**

- Corporate Valuation

**Session 8**

- Portfolio Models

**Session 9**

- Betas and Security Market Line
- Black-Litterman approach to Portfolio Optimization
- Event Studies

**Session 10**

- Option Pricing Model
- Black Scholes Model

**Session 11**

- Bonds

**Session 12**

- Monte Carlo Methods

**7. Faculty name and details:**

Mr. Vignesh Iyer,

Principal Engineer at State Street & Visiting faculty at IIMs, NMIMS, SP Jain.

**Course Coordinators** **Add on Course Convenors**
**Principal**

**Dr. Shilpa Chaudhary** **Dr. Jayanti P Sahoo**
**Prof. Swati Pal**

**DEPARTMENT OF ECONOMICS** **Dr. Sipu Jayaswal.**

**JANKI DEVI MEMORIAL COLLEGE**