NPTEL : Biomathematics (Biotechnology)

Co-ordinators : Dr. Ranjith Padinhateeri

NPTEL : Proteomics: Principles and Techniques (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Proteins and Gel-Based Proteomics (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Mass spectrometry based proteomics (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Interactomics: Protein Arrays and Label-free Biosensors (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Introduction to Proteomics (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Introduction to Biostatistics (Biotechnology)

Co-ordinators : Prof. Shamik Sen

NPTEL : NOC:Introduction to Mechanobiology (Biotechnology)

Co-ordinators : Prof. Shamik Sen

NPTEL : NOC:Introductory Mathematical Methods for Biologists (Biotechnology)

Co-ordinators : Dr. Ranjith Padinhateeri

NPTEL : NOC:Bioengineering: An Interface with Biology and Medicine (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Applications of Interactomics using Genomics and Proteomics Technologies (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Introduction to Proteogenomics (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Interactomics: Basics and Applications (Biotechnology)

Co-ordinators : Prof. Sanjeeva Srivastava

NPTEL : NOC:Maternal Infant Young Child Nutrition (Biotechnology)

Co-ordinators : Prof. Rupal Dalal

NPTEL : NOC:Maternal Infant Young Child Nutrition (Hindi) (Biotechnology)

Co-ordinators : Prof. Rupal Dalal

Lecture 1 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤à¤¨à¤šà¤«à¤¸, 5 à¤¡à¥‡à¤Ÿà¥

Lecture 2 - à¤¦à¥‚à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¥à¤·à¥‡à¤¤à¥à¤° à¤¸à¥‡ à¤‰à¥à¤•à¥à¤·à¥‡à¤¤à¥à¤°

Lecture 3 - à¤¤à¥€à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¥à¤¯à¥ à¤¯à¥‹à¤¨à¤¿ à¤¶à¤¿à¤¶à¥ à¤¸à¥‡à¤µà¤¨ à¤•à¥€ à¤•à¥à¤·à¤®à¤¤à¤¾ à¤”à¤° à¤•à¥à¤·à¤®à¤¤à¤¾ à¤”à¤° à¤•à¥à¤·à¤®à¤¤à¤¾ à¤¨à¤¿à¤°à¥à¤§à¤¾à¤°à¤£

Lecture 4 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤²à¥à¤‡à¤¸ à¤¸à¥‡à¤¶à¤¨

Lecture 5 - à¤¦à¥‚à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¤¹à¤²à¥‡ à¤ªà¤¹à¤šà¤¾à¤¨ à¤”à¤° à¤¦à¥‚à¤¸à¤°à¥‡ à¤ªà¤¹à¤šà¤¾à¤¨ à¤•à¥‡ à¤¬à¤¾à¤¦ à¤•à¥à¤·à¤®à¤¤à¤¾ à¤•à¤¾ à¤¨à¤¿à¤°à¥à¤§à¤¾à¤°à¤£ - à¤¹à¥‡à¤²à¤²à¥à¤¥ à¤¸à¥à¤ªà¥‡à¤•à¥à¤Ÿà¥à¤°à¤® à¤¸à¥à¤¤à¤°

Lecture 6 - à¤¤à¥€à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¥à¤°à¥‹à¤¤à¥€à¤¨ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 7 - à¤šà¥Œà¤¥à¥ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¥‹à¤²à¥€à¤¨ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 8 - à¤ªà¥à¤¸à¤¤à¥€à¤¯ à¤²à¥‡à¤•à¥à¤šà¤° : à¤«à¥‹à¤²à¥‡à¤Ÿ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 9 - à¤› à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¬à¥€ 12 à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 10 - à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨, à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥‡à¤²à¥‡à¤¨à¤¿à¤® à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ à¤¤à¤¥à¤¾à¤®à¤¿à¤¨ à¤ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 11 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¥^à¤²à¥à¤¶à¤¿à¤® à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 12 - à¤¦à¥‚à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¥^à¤—à¥à¤¨à¥€à¤¶à¤¿à¤® à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 13 - à¤¤à¥€à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¥‹à¤·à¤£ à¤¶à¤¿à¤® à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 14 - à¤šà¥Œà¤¥à¥ à¤²à¥‡à¤•à¥à¤šà¤° : à¤œà¤¨ à¤«à¥‚à¤¡

Lecture 15 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤‡à¤¸ à¤¸à¥à¤²à¤¿à¤¯ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 16 - à¤› à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¥^à¤•à¥à¤°à¥‹à¤¨à¥à¤¯à¥à¤Ÿà¥à¤°à¤¿à¤¯à¤¨à¥à¤Ÿà¥à¤¸ à¤•à¥ à¤ªà¤°à¤¿à¤šà¤¯

Lecture 17 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¤¹à¤²à¥‡ 1,000 à¤¦à¤¿à¤¨

Lecture 18 - à¤¦à¥‚à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤—à¤°à¥à¤à¤¾à¤µà¤¸à¥à¤¥à¤¾ à¤®à¥‡à¤‚ à¤¸à¤¹à¥€ à¤ªà¥‹à¤·à¤£ à¤•à¤¾ à¤®à¤¹à¤¤à¥à¤µ

Lecture 19 - à¤¤à¥€à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤†à¤¯à¤°à¤¨ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 20 - à¤šà¥Œà¤¥à¥ à¤²à¥‡à¤•à¥à¤šà¤° : à¤µà¤¿à¤Ÿà¤¾à¤®à¤¿à¤¨ à¤¸à¥€ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 21 - à¤ªà¤¾à¤šà¤µà¥‡à¤‚ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¤²à¥à¤«à¤° à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 22 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¥à¤¾à¤¨à¥€à¤¯ à¤•à¥ à¤µà¤¿à¤œà¥à¤žà¤¾à¤¨

Lecture 23 - à¤¦à¥‚à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¨à¤¹à¥‡à¤²à¤¾ à¤˜à¤¾ à¤”à¤° à¤–à¥€à¤¸, à¤ªà¤¿à¤¤à¥à¤¤à¤¾à¤¶à¤¯ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 24 - à¤¤à¥€à¤¸à¤°à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¥ à¤®à¤¹à¤¤à¥à¤µ

Lecture 25 - à¤šà¥Œà¤¥à¥ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¬à¥à¤°à¥‡à¤¸à¥à¤Ÿ à¤•à¥à¤°à¥‰à¤¨

Lecture 26 - à¤ªà¤¹à¤²à¥‡ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¥€ à¤°à¤•à¥à¤·à¤¾ à¤•à¥ à¤²à¤¿à¤ à¤¬à¥à¤¦à¥à¤§à¤¿à¤®à¤¾à¤¨ à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨

Lecture 27 - à¤›à¤ à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¨à¤µà¤œà¤¾à¤¤ à¤¶à¤¿à¤¶à¥ à¤•à¥ à¤–à¤¿à¤²à¤¾à¤¨à¥‡ à¤•à¥€ à¤¸à¤¹à¥€ à¤¤à¤°à¥€à¤•à¤¾, - à¤¨à¤µà¤œà¤¾à¤¤ à¤¶à¤¿à¤¶à¥ à¤•à¥ à¤²à¤¿à¤ à¤•à¥‡à¤²à¥‡ à¤•à¥€ à¤¸à¤¹à¥€ à¤¤à¤°à¥€à¤•à¤¾

Lecture 28 - à¤¸à¤¾à¤¤à¤µà¤¾à¤‚ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¤‚à¤—à¤¾à¤°à¥, à¤®à¤¦à¤° à¤•à¥‡à¤¯à¤° - à¤Ÿà¥‹à¤ªà¥€ à¤•à¥‡ à¤¸à¤¾à¤¥ à¤•à¤‚à¤—à¤¾à¤°à¥, à¤¬à¥ˆà¤— à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¤¾ à¤¤à¤°à¥€à¤•à¤¾

Lecture 29 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¤¾à¤ à¤•à¥€ à¤¤à¥ˆà¤¯à¤¾à¤°à¥€ à¤”à¤° à¤¬à¤šà¥à¤šà¥‡ à¤•à¥€ à¤¸à¥à¤¥à¤¿à¤¤à¤¿

Lecture 30 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨ à¤•à¥‹ à¤ªà¤•à¤¡à¤¼à¤¨à¤¾ à¤”à¤° à¤¬à¤šà¥à¤šà¥‡ à¤•à¥‹ à¤¸à¥à¤¤à¤¨ à¤¸à¥‡ à¤²à¤—à¤¾à¤¨à¤¾

Lecture 31 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤…à¤¨à¥à¤¯ à¤ªà¤°à¤¾à¤®à¤°à¥à¤¶ à¤¬à¤¿à¤‚à¤¦à¥

Lecture 32 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¥à¤°à¥‰à¤¸ à¤•à¥à¤°à¥‡à¤¡à¤² à¤¸à¥à¤¥à¤¿à¤¤à¤¿ à¤”à¤° à¤²à¥ˆà¤šà¤¿à¤‚à¤— à¤ªà¤° à¤¹à¥‡à¤²à¥à¤¥ à¤¸à¥à¤ªà¥‹à¤•à¤¨ à¤Ÿà¥à¤¯à¥‚à¤Ÿà¥‹à¤°à¤¿à¤¯à¤²

Lecture 33 - à¤ªà¤¾à¤‚à¤šà¤µà¤¾ à¤²à¥‡à¤•à¥à¤šà¤°: à¤•à¥à¤°à¥‰à¤¸ à¤•à¥à¤°à¥‡à¤¡à¤² à¤¸à¥à¤¥à¤¿à¤¤à¤¿ à¤®à¥‡à¤‚ à¤¬à¤šà¥à¤šà¥‡ à¤•à¥‹ à¤¦à¥‚à¤§ à¤ªà¤¿à¤²à¤¾à¤¨à¥‡ à¤®à¥‡à¤‚ à¤†à¤¨à¥‡ à¤µà¤¾à¤²à¥€ à¤¸à¤®à¤¸à¥à¤¯à¤¾à¤“à¤‚ à¤•à¤¾ à¤¸à¤®à¤¾à¤§à¤¾à¤¨

Lecture 34 - à¤›à¤ à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¥à¤¿à¤¤à¤¿ à¤”à¤° à¤—à¤¹à¤°à¥‡ à¤œà¥à¤¡à¤¼à¤¾à¤µ à¤•à¥‡ à¤²à¤¾à¤‡à¤µ à¤µà¥€à¤¡à¤¿à¤¯à¥‹

Lecture 35 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¥‡ à¤²à¤¿à¤ à¤«à¥à¤Ÿà¤¬à¥‰à¤² à¤ªà¤•à¤¡à¤¼

Lecture 36 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤à¤• à¤¤à¤°à¤« à¤²à¥‡à¤Ÿ à¤•à¤° à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¤°à¤¾à¤¨à¥‡ à¤•à¥€ à¤ªà¤•à¤¡à¤¼

Lecture 37 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¤¾à¤°à¤•à¥‹à¤‚ à¤”à¤° à¤…à¤¨à¥à¤¯ à¤•à¤¾à¤°à¤•à¥‹à¤‚ à¤•à¥‡ à¤•à¤¾à¤°à¤£ à¤•à¤® à¤µà¥›à¤¨ à¤¬à¥à¤¨à¤¾|

Lecture 38 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¥‹à¤µà¤¿à¤¡ - 19 à¤•à¥‡ à¤¦à¥Œà¤°à¤¾à¤¨ à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨

Lecture 39 - à¤ªà¤¾à¤‚à¤šà¤µà¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤¹à¤¾à¤¥ à¤¸à¥‡ à¤¸à¥à¤¤à¤¨ à¤•à¤¾ à¤¦à¥‚à¤§ à¤¨à¤¿à¤•à¤¾à¤²à¤¨à¤¾

Lecture 40 - à¤›à¤ à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¤°à¤¾à¤¤à¥€ à¤®à¤¾à¤“à¤‚ à¤•à¥‡ à¤¨à¤¿à¤ªà¥à¤ªà¤² à¤•à¥€ à¤¸à¥à¤¥à¤¿à¤¤à¤¿

Lecture 41 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : 6 à¤¸à¥‡ 24 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¶à¤¿à¤¶à¥à¤“à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤ªà¥‚à¤°à¤• à¤†à¤¹à¤¾à¤° à¤•à¥‡ à¤¸à¤‚à¤¬à¤‚à¤§ à¤®à¥‡à¤‚ à¤¦à¤¿à¤¶à¤¾-à¤¨à¤¿à¤°à¥à¤¦à¥‡à¤¶

Lecture 42 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : à¤¶à¤¿à¤¶à¥ à¤•à¤¾ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤”à¤° à¤–à¤¿à¤²à¤¾à¤¤à¥‡ à¤¹à¥à¤ à¤–à¥à¤¦ à¤•à¥€ à¤¸à¤«à¤¾à¤ˆ à¤•à¥€ à¥›à¤°à¥‚à¤°à¤¤

Lecture 43 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : 6 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤”à¤° à¤®à¤¾à¤‚à¤¸à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡

Lecture 44 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : 7 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡

Lecture 45 - à¤ªà¤¾à¤‚à¤šà¤µà¤¾ à¤²à¥‡à¤•à¥à¤šà¤°-à¤… : 8 à¤¸à¥‡ 11 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡

Lecture 46 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¥‚à¤°à¤• à¤†à¤¹à¤¾à¤° à¤•à¥‡ à¤¦à¥Œà¤°à¤¾à¤¨ à¤¹à¥‹à¤¨à¥‡ à¤µà¤¾à¤²à¥€ à¤¸à¤®à¤¸à¥à¤¯à¤¾à¤à¤‚

Lecture 47 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : 12 à¤¸à¥‡ 18 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡|

Lecture 48 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : 19 à¤¸à¥‡ 24 à¤®à¤¹à¥€à¤¨à¥‡ à¤•à¥‡ à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡ |

Lecture 49 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¬à¤šà¥à¤šà¥‹à¤‚ à¤•à¥€ à¤ªà¤¾à¤°à¥à¤Ÿà¤¿à¤¯à¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¸à¥à¤µà¤¾à¤¦à¤¿à¤·à¥à¤Ÿ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡ |

Lecture 50 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤•à¤¿à¤¶à¥‹à¤°à¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤”à¤° à¤®à¤¾à¤‚à¤¸à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡| à¤ªà¥‚à¤°à¥à¤µ à¤—à¤°à¥à¤-à¤¾à¤µà¤¸à¥à¤¥à¤¾ à¤ªà¥‹à¤·à¤£

Lecture 51 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤—à¤°à¥à¤à¤µà¤¤à¤¿à¤¯à¥‹à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤ªà¥Œà¤·à¥à¤Ÿà¤¿à¤• à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤”à¤° à¤®à¤¾à¤‚à¤¸à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡

Lecture 52 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¤°à¤¾à¤¨à¥‡ à¤µà¤¾à¤²à¥€ à¤®à¤¾à¤“à¤‚ à¤•à¥‡ à¤²à¤¿à¤ à¤ªà¥Œà¤·à¥à¤Ÿà¤¿à¤• à¤¶à¤¾à¤•à¤¾à¤¹à¤¾à¤°à¥€ à¤”à¤° à¤®à¤¾à¤‚à¤¸à¤¾à¤¹à¤¾à¤°à¥€ à¤–à¤¾à¤¨à¤¾ à¤¬à¤¨à¤¾à¤¨à¥‡ à¤•à¥‡ à¤¤à¤°à¥€à¤•à¥‡

Lecture 53 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¡à¤¬à¥à¤²à¥à¤¯à¥‚à¤à¤šà¤“ à¤¬à¤¹à¥à¤•à¥‡à¤‚à¤¦à¥à¤°à¥€à¤¯ à¤µà¤¿à¤•à¤¾à¤¸ à¤¸à¤‚à¤¦à¤°à¥à¤ à¤…à¤§à¥à¤¯à¤¯à¤¨ (1997-2003)| à¤ªà¥à¤°à¤¤à¤¿à¤¶à¤¤à¤• à¤µà¥ƒà¤¦à¥à¤§à¤¿ à¤šà¤¾à¤°à¥à¤Ÿ

Lecture 54 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¤¾à¤¨à¤• à¤¸à¤¾à¤®à¤¾à¤¨à¥à¤¯ à¤µà¤¿à¤šà¤²à¤¨| à¤¡à¤¬à¥à¤²à¥à¤¯à¥‚à¤à¤šà¤“ à¤œà¥‡à¤¡ à¤¸à¥à¤•à¥‹à¤° à¤šà¤¾à¤°à¥à¤Ÿ

Lecture 55 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤°:à¤¡à¤¬à¥à¤²à¥à¤¯à¥‚à¤à¤šà¤“-à¤‰à¤®à¥à¤° à¤•à¥‡ à¤¹à¤¿à¤¸à¤¾à¤¬ à¤¸à¥‡ à¤µà¥›à¤¨ à¤”à¤° à¤²à¤‚à¤¬à¤¾à¤ˆ à¤µà¥ƒà¤¦à¥à¤§à¤¿ à¤šà¤¾à¤°à¥à¤Ÿ à¤ªà¤° à¤¬à¤¨à¥‡ à¤¸à¥à¤ªà¥‹à¤•à¤¨ à¤Ÿà¥à¤¯à¥‚à¤Ÿà¥‹à¤°à¤¿à¤¯à¤²

Lecture 56 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤à¤¸à¥à¤¥à¥à¤°à¥‹à¤ªà¥‹à¤®à¥‡à¤Ÿà¥à¤°à¤¿à¤• à¤®à¤¾à¤ª

Lecture 57 - à¤ªà¤¹à¤²à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¥‡ à¤²à¤¿à¤ à¥ªà¥« à¤ªà¤°à¤¾à¤®à¤°à¥à¤¶ à¤¬à¤¿à¤‚à¤¦à¥ - à¤à¤¾à¤— 1

Lecture 58 - à¤¦à¥‚à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤•à¥‡ à¤²à¤¿à¤ à¥ªà¥« à¤ªà¤°à¤¾à¤®à¤°à¥à¤¶ à¤¬à¤¿à¤‚à¤¦à¥ - à¤à¤¾à¤— 2| à¤¸à¥à¤¤à¤¨à¤ªà¤¾à¤¨ à¤®à¥‚à¤²à¥à¤¯à¤¾à¤‚à¤•à¤¨ à¤«à¥‰à¤°à¥à¤®

Lecture 59 - à¤¤à¥€à¤¸à¤°à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤ªà¥‹à¤·à¤£ à¤šà¤¾à¤°à¥à¤Ÿ

Lecture 60 - à¤šà¥Œà¤¥à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤²à¤°à¥à¤¨à¤¿à¤‚à¤— à¤à¤•à¥à¤¶à¤¨ à¤ªà¥à¤°à¥‹à¤Ÿà¥‹à¤•à¥‰à¤² - à¤à¤¾à¤— 1

Lecture 61 - à¤ªà¤¾à¤‚à¤šà¤µà¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤²à¤°à¥à¤¨à¤¿à¤‚à¤— à¤à¤•à¥à¤¶à¤¨ à¤ªà¥à¤°à¥‹à¤Ÿà¥‹à¤•à¥‰à¤² - à¤à¤¾à¤— 2

Lecture 62 - à¤›à¤ à¤¾ à¤²à¥‡à¤•à¥à¤šà¤° : à¤®à¤¾à¤¤à¥ƒ, à¤¶à¤¿à¤¶à¥ à¤”à¤° à¤¬à¤¾à¤² à¤ªà¥‹à¤·à¤£ à¤•à¥‡ à¤ªà¥à¤°à¤®à¥à¤– à¤¬à¤¿à¤‚à¤¦à¥

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