



AKU B.E./B.Tech IT Sem 8 syllabus

Multimedia Technology and Application

MULTIMEDIA TECHNOLOGY AND APPLICATION

CREDITS - 03

- 1. Introduction** : Multimedia today, Impact of Multimedia, Multimedia Systems, Components and its Applications.
- 2. Text and Audio** : Text: Types of Text, Ways to Present Text, Aspects of Text Design, Character, Character Set, Codes, Unicode, Encryption; Audio: Basic Sound Concepts, Types of Sound, Digitizing Sound, Computer Representation of Sound (Sampling Rate, Sampling Size, Quantization), Audio Formats, Audio tools, MIDI.
- 3. Image and Video** : Image: Formats, Image Colour Scheme, Image Enhancement; Video: Analogue and Digital Video, Recording formats and Standards (JPEG, MPEG, H.261) Transmission of Video Signals, Video Capture and Computer based Animation.
- 4. Synchronization** : Temporal relationships, synchronization accuracy specification factors, quality of service.
- 5. Storage models and Access Techniques** : Magnetic media, optical media, file systems (traditional, multimedia)
- 6. Multimedia devices** : Output devices, CD-ROM, DVD, Scanner, CCD
- 7. Image and Video Database** : Image representation, segmentation, similarity based retrieval, image retrieval by colour, shape and texture: Indexing k-d trees, R-trees, Quad trees; Case Studies : QBIC, Virage, Video Content querying, video segmentation, indexing.

8. Document Architecture and Content Management : Content Design and Development, general Design Principles.

9. Hypertext : Concept, Open Document Architecture (ODA), Multimedia and Hypermedia Coding Expert Group (MHEG), Standard Generalized Markup Language (SGML), Document type Definition (DTD), Hypertext Markup Language (HTML) in Web Publishing, Case study of Application.

10. Multimedia Application : Interactive television, Video-on-demand, Video Conferencing, Educational Applications, Industrial Applications, Multimedia archives and digital libraries, media editors.

Reference Books :

1. Multimedia Literacy by Fred Hoffsteller, McGraw Hill.
2. Multimedia Fundamentals : Vol. 1-Media Coding and Content Processing by Ralf Steinmetz and Klara Hahrstedt, PHI.
3. Multimedia in Practice : Technology and Application by J. Jeffcoate, PHI.
4. Multimedia Communications by Fred Halsall, Pearson Ed.

XML Web Services

XML WEB SERVICES

CREDITS - 03

1. **XML :** Introduction to XML, DTD, CSS, Namespace, Schema, XSD, XSL.
2. **Introduction to Web Services :** The Web Services Type System, Data Type Mappings.
3. **SOAP :** Communication on the Web
4. **WSDL :** Describing Web Services.
5. **SOAP Tools :** SOAP Toolkit, components and architecture, exposing and invoke Web services.
6. **Developing Web Services :** Using ASP.Net application using c#

programming environment.

7. Web Services : Working with WSDL and invoking them using .NET client/Java Client through the code.

8. SOAP Header : Managing the risks of Web Service, Interface-Based Web Service.

9. Development of Interface-based Programming : WSDL bindings, Reusable Web Services Infrastructure.

10. UDDI : A Web Service, Framework & Sample Applications. 11. SOAP Toolkit Interoperability

Reference Books :

(1) Beginning XML by David Hunter, Andrew Watt (Wrox Publication)

(2) Professional ASP.NET 2.0 by Thiru Thangarathinam (Wrox Publication)

Intrusion Detection

INTRUSION DETECTION

CREDITS - 03

1. Basics : Understanding Intrusion Detection, Unauthorized activity, TCP Dump.

2. Architecture : IDS and IPS architecture, IDS and IPS internals.

3. Implementation and Deployment : Internet Security System's Real Source, Snort, NFR Security.

4. Security and IDS Management : Data Correlation, Incident Response, Policy and Procedures, Law, Standards and organizations, Security Business issues, Future of Intrusion Detection and Prevention.

Reference Books :

1. Implementing Intrusion Detection systems by Tim Crothers, Wiley.

Management Information System (Elective)

MANAGEMENT INFORMATION SYSTEM

CREDITS - 03

1. Strategic View of Management Information System :

Introduction to MIS : Concept, definition, role, Impact etc., E-business Enterprise : Introduction, E-business, E-commerce, E-communication, e-collaboration, Strategic Management of Business : Corporate Planning, Strategic Planning, Development of Business Strategies, Types of Strategies, Short-Range Planning, MIS : Business Planning, Information Security Challenges in E-enterprises.

2. Basics of Management Information Systems :

Decision Making : Concepts, Process, behavioural concepts, Organisational Decision Making, MIS and Decision Making Concepts, Information : Concepts, Classification, Methods of Collection, Value, Knowledge. Systems : Concepts, Control, Types, handling Complexity, Classes, General Model of MIS, Implementation Problems, MIS and System Concept. System Analysis & Design : Introduction, Need, System Development Model, Structured System Analysis & Design, Computer System Design, MIS and System Analysis. Development of MIS : Long Range Plans, Class of Information, Information Requirement, Implementation of MIS, Quality in the MIS, Organisation for development of the MIS, MIS : Development Process Model Business Process Re-Engineering : Business Process, Process Model, Value Stream Model, Relevance of IT, MIS and BPR.

3. Applications of Management Information System to E-Business.

4. Application of MIS :

Application in Manufacturing Sector. Applications in Service Sector, Decision Support Systems, Enterprise Management Systems.

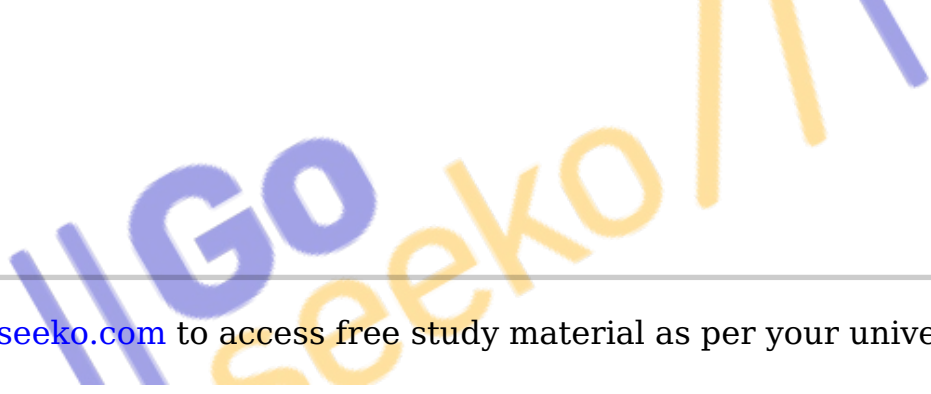
5. Case Studies :

Tata Home Finance Ltd. and Engineering Product Limited.

Reference Books :

1. Management Information Systems, Managing the digital firm by Laudon & Laudon, Pearson.

2. Management Information System by s. Sadagopan, PHI.



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