

• Introduction	• مقدمة
• The Benefits of Modulation	• الفائدة من التعديل
• The Analogue Communication	• الاتصالات التماثلية
☞ Amplitude Modulation	☞ التعديل المطالي
☞ Frequency Modulation	☞ التعديل الترددي
☞ Amplitude Demodulation	☞ فك التعديل المطالي
☞ The Spectrum of Amplitude modulated Signal	☞ طيف الإشارة المعدلة مطالياً
☞ The Spectrum of Frequency Modulated Signal	☞ طيف الإشارة المعدلة ترددياً
☞ The Power of Modulated Signal	☞ طاقة الإشارة المعدلة مطالياً
• Dirac Pulse	• نبضة ديراك
• The Sinc concept	• مفهوم تابع السينك
• The Spectrum of Signals	• طيف الإشارات
• Sampling & nyquist rate	• أخذ العينات و معدل نايكويست
• Pulse Amplitude Modulation (P.A.M)	• التعديل النبضي المطالي
• Pulse Width Modulation (P.W.M)	• التعديل النبضي العرضي
• Pulse Position Modulation (P.P.M)	• التعديل النبضي حسب موقع النبضة
• Time Division Multiplexing (T.D.M)	• التجميع بتقسيم الزمن
• Pulse Code Modulation (P.C.M)	• التعديل النبضي المرمز
• Amplitude Shift Keying (A.S.K)	• الإقفال بإزاحة المطال
• Phase Shift Keying (P.S.K)	• الإقفال بإزاحة الطور
• Frequency Shift Keying (F.S.K)	• الإقفال بإزاحة التردد
• Binary Frequency Shift Keying (B.F.S.K)	• الإقفال بإزاحة التردد الثنائي
• Quadruple Amplitude Modulation (Q.A.M)	• التعديل المطالي التعامدي (رباعي الأطوار)

The design of networking subject :

- 1-CIDR Class less Inter-Domain Routing
- 2-Natting concept PAT Port Address Translation
- 3-Asymmetric Digital Subscriber Line ADSL
- 4-Integrated Switching Digital Network
- 5-The concept of Routing Table
 - a- Internal routing protocol (RIP Ver.1 +2 + OSPF)
 - b- External Routing Protocol
- 6-Access List (Standard, Extended, Named)
- 7-The Switch Concept
 - a- Vlan
 - b- Port Security
 - c- VTP Virtual Trunking Protocol 802.1q Protocol
 - d- STP Spanning Tree Protocol 802.1d Protocol

The Advanced Communication subject :

- 1- The DCE & DTE Concept
- 2- X.21 protocol
- 3- The RS232 Serial interface
- 4- The Asynchronous & synchronous Serial Protocol
- 5- Modems
 - a- introduction
 - b- Installation
 - c- Benefits مقارنة
- 6- Comparison between bits per second & baud rate
- 7- QPSK quadruples phase shift keying
- 8- Telephone line
 - a- Switching
 - b- Dial Up
 - c- Leased Line
 - d- ISDN
 - e- ADSL
 - Upstream & Downstream concept
 - f- PDN (Public Data Network)
- 9-The mobile communication (GSM)
 - a- cells
 - b- Capacity
 - c- Frequency reuse
 - d- Modulation in Mobile

- + AMPS Analogue Mobile Phone System
- + NAMPS Narrow Mobile Band Phone System
- + CDMA Code Division Multiple Access
- e- 3 generator Mobile
- 10-Blue Tooth Concept
- 11- Wireless Network
- 12- Wi-Fi 802.11b
- 13- WiMax 802.16 E
- 14- Frame Relay
- 15- Modem 56K

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