EUROPEAN INFORMATION TECHNOLOGIES CERTIFICATION INSTITUTE, ASBL.

Brussels, Belgium, European Union

# CERTIFICATE

## Mateusz Matlakiewicz

Has successfully completed test requirements of
The European Information Technologies Certification Programme

## EITC/CN/CNF Computer networking fundamentals

**Certification Programme examination result:** 68.33%

**Certification Programme description:**

Introduction: basic concepts of computer network, models of computer networks, types of network implementations, network communication paradigms (circuit-switched networks, packet-switched networks, network communication paradigms comparison); Network topologies: review of network topologies (point-to-point - P2P topology, bus topology, star topology, ring topology, tree topology, mesh topology, mixed topologies), topologies classification (linear topologies, centralized topologies, decentralized topologies), network topologies at different network abstraction layers; Layers model of network communication: ISO/OSI reference model for layers, simplified layer model of network; Technologies and protocols of media layers: local area network [LAN] (Ethernet - physical layer, data link layer), wide area network [WAN]; Network devices operating in media layers: network interface cards (NIC), repeaters, network hubs, bridges, switches, other network devices; Wireless networks: radio frequency and frequency sharing techniques (FDMA - frequency division multiple access, TDMA - time division multiple access, CDMA - code division multiple access), wireless LAN [WLAN] (WiFi, Bluetooth), mobile networks - mobile technologies (mobile standards); Internet - network layer protocols: data encapsulation and transmission, the IP protocol, IPv4 (packet construction, IPv4 addressing, subnetting and supernetting), IPv6, ICMP control protocol, Internet - transport protocols (TCP - TCP segment structure, UDP); Application layer - network services: e-mail (SMTP, POP3, IMAP), web services - HTTP, file transfer - FTP

**Certificate Programme version/revision: EITC/CN/CNFv1r2**

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