EUROPEAN INFORMATION TECHNOLOGIES CERTIFICATION INSTITUTE, ASBL.

Brussels, Belgium, European Union

CERTIFICATE

Malgorzata Anna Czechura-Ostrowska

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

EITC/TT/MSF Mobile systems fundamentals

Certification Programme examination result: 70.56%

Certification Programme description:

Introduction to mobile systems: main characteristics, features and benefits of mobile systems, development of mobile systems applications, problems and challenges of mobile systems, mobile user, mobile devices, mobile communications, mobile systems architecture, an overview of chosen applications of mobile systems; Positioning and navigation of mobile users: theory of geographic positioning, measuring equipment (determination of course, speed and distance, time measuring), inertial navigation, positioning in GSM networks, counted and observed GSM positions, integrated systems, navigation in buildings, uncertainty of GSM location, satellite navigation systems (GPS, GLONASS); Cellular systems: the idea of mobile telephony (concept of "frequency reuse", disadvantages of architecture of cellular systems, radio coverage areas, deployment of base stations, frequency channels beam), overview of cellular architecture systems (GSM / UMTS, Mobitex, Wi-Fi , Bluetooth, Iridium), problem of cellular network capacity (increasing channel capacity, reducing cell size), roaming, handover, GSM system, structure and components of GSM system (functional blocks, IDs), base stations and mobile stations, terminal states, conducting a conversation - speech signal transmission, messaging (SMS, EMS, MMS), standards of data transmission (HSCSD, GPRS, EDGE, UMTS), user authentication; Wireless communication systems: satellite communications systems - geostationary systems, non-geostationary systems, paging systems, dispatch systems, wireless telephony, devices with infrared system, military mobile systems; Representations of spatial data and SIS: SIS - spatial information systems (tasks and applications, basic components and modules, spatial analysis), implementation and verification of spatial data, spatial data processing, raster and vector model of spatial data, topological vector model, representation of spatial data; Mobile processing - problems (recursive space decomposition, migration, spatial data scattering by partitioning, uncertain positions in urban network, uncertain positions at sea; Mobile database systems: position update of mobile user (INFORM strategy, SEARCH strategy), queries and services dependent on position, mobile transactions, data replication and migration, geographically targeted messages, geographic routing; Wireless LAN networks: characteristics and operation of WLAN, network adapters and access points, types of radio antennas, access point configuration, ADHOC networks, creation of wireless links, standards (802.11b, WiMAX), wardriving, WAP and WML language: WAP (protocol versions, creating WAP sites), language, WML (document structure, presentation of data, events and actions, forms, links to PHP, phone calls)

Certificate Programme version/revision: EITC/TT/MSFv1r1

CERTIFICATE ID: **EITC/TT/MSF/MDN21004342**

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DATE OF ISSUE:
September 2021
Brussels, Belgium
European Union