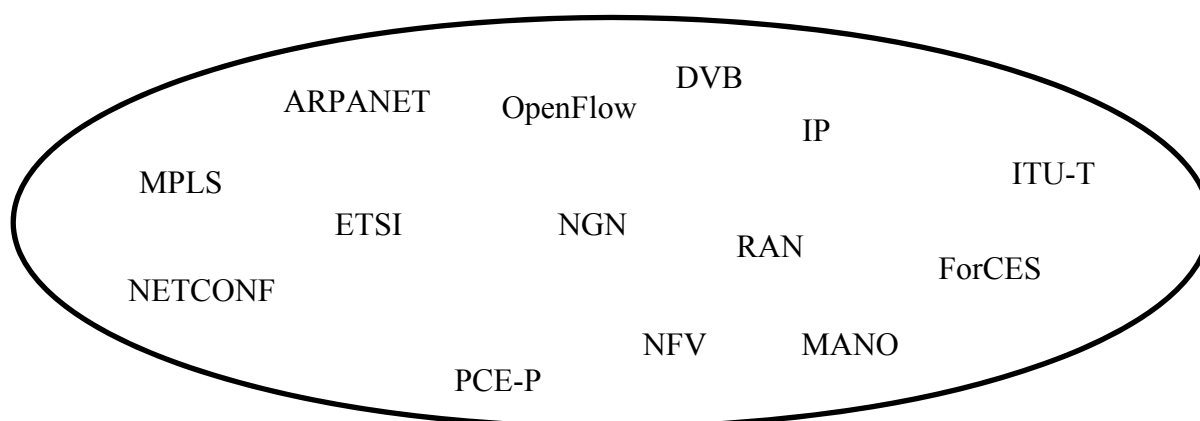1. **Assign standardization organizations ETSI and ITU-T for following definitions of NGN (*Next Generation Networks*).**

Name of standardization organization	Definition of NGN based on standardization organization
	NGN is a network based on packet transfer, enabling to provide services including telecommunication services, and is able to use several broadband transmission technologies allowing guaranteeing QoS.
	describes NGN as a concept for the defining and establishing of the networks, allowing a formal distribution of functionalities into separate layers and planes by using open interfaces.
	NGN concept provides new conditions for creation, implementation and effective management of innovative services.
	The functions related to services are at the same time independent of the basic transmission technologies. NGN provides unlimited user access to different service providers.

2. **Encircle protocols which can be used to implement SDN (*Software Defined Networking*) functionalities in a network.**

ARPANET OpenFlow DVB IP MPLS ETSI NGN RAN ITU-T NETCONF ForCES PCE-P NFV MANO

3. Mark correct combination of requirements which should be met by NFV (*Network Functions Virtualization*) architecture.

☐ physical installation of devices, energy efficiency, continuity of services

☐ remote deployment of devices, flexibility, continuity of services

☐ variety hardware support, remote installation of devices, energy efficiency

☐ energy efficiency, variety hardware support, flexibility

4. Mark correct system included in the VNF (*Virtualized Network Feature*) component.

☐ Element Management System

☐ Computing hardware

☐ Orchestrator

☐ Hardware storage

5. Mark those functions/services/systems which can be virtualized within NFV architecture.

Virtual routing ☐	Virtual private networks ☐	Security services ☐
Digital video broadcasting systems (DVB) ☐	Radio access networks (RAN) ☐	Positioning based on GPS ☐

6. Mark correct characteristics of NFV MANO (*Management and Orchestration*).

☐ NFV MANO contains 3 components and a VNF Manager is one of them

☐ NFV MANO contains 4 components and a NFV Orchestrator is one of them

☐ NFV MANO contains 3 components and a Virtualized Infrastructure Manager is one of them

☐ NFV MANO contains 4 components and a VNF Manager is one of them

7. Sort devices (on the right) connected to the Internet in 2020 based on their quantity (start with the lowest quantity) following forecasts.

    1. _____

    2. _____

    3. _____

tablets, wearables, smart home devices