29.1.2021, **Total time: 30 minutes**

*Name, surname:* ENTER

*Login:* ENTER

Try to answer briefly, concisely and to the point.   
**It is forbidden to use study materials, Google and other not only Internet resources!**

1. **(10 points)**  
   What are today's Internet problems and what are their solutions. Give and describe min. 5 problems.  
     
   - The problem is many computer use IPv4 address and divide address into class, the solution is: Computer can use NAT and IPv6.

* **Freedom and censorship : Everyone can speak and speak freely, but the information needs to be kept confidential.**
* **SPAM: The development of the internet has come with advertising messages appearing and affecting users' work.**
* **Searching information: Nowadays, people can easily search for informational materials through Google or Wikipedia.**
* Authentication: Hackers want to steal personal information for bad purposes, so account security is very essential as Google does.
* User privacy

**(10 points)**  
What is HTML 5 and what new features offers it? What are key features and possibilities of HTML 5? Write some examples of new HTML elements/tags.

- HTML5 is direction the web is moved – future of web applications and development.

* HTML 5 is multiplatform
* HTML5 = HTML + CSS + JS. Feature are : Time, command, output, menu, section, datagrid,...
* Possibility is : HTML5 can interact with user, visualize and multimedia, semantic web

1. **(10 points)**  
   What is XPath and what is the purpose of it? What are the constructional parts (3) of XPath query and how are they use? Write example of XPath queries.

* XPATH is a design language for build the query and the purpose of making applications with XML documents and access values and attributes of elements.
* Example:

<book category = “detective”>

<title> Conan </title>

<point> 85 User Score </point>

</book>

1. **(10 points)**  
   Simply specify (target of attack, principle of attacking, defend) following types of attack among internet applications: **Brute-Force attack**  
   - Brute-Force attack is received of information by repeating /testing of inputs

* **Target: Information User, system information**
* Principle of attacking:Brute force works by trying out all possible password strings to find the password.
* Defend: Set a password as complex as possible and passwords must contain numbers and special characters (password strength)

1. **(20 points – 10x2 point)**  
   Specify technology domain and purpose (meaning) of technology/approach/application … of given abbreviations/name (answer simply, directly into the list).

TCP:   
Wireframe:  
DOM:  
jQuery:  
XPath:  
Firebug:  
DTD:  
ASIDE:  
API:  
DoS: