Direction:

09.04.01 Informatics and Computer Science

Master's Program "Innovative Software Systems: Design, Develop & Applications"

№	Task	Points
1.	Graph theory. Basic definitions.	10
2.	The architecture of computing systems.	10
3.	Database. Basic definitions.	10
4.	Local area networks.	10
5.	Artificial intelligence. The main modern approaches.	10
6.	3D printing is: a) construction of a three-dimensional object based on its projections b) creating a sweep of the object for its printing on a printer c) creation of a real object from a composite material based on a 3D model	5
7.	Choose the correct statement: a) the center of transformation coincides with the center of the dimensional box b) the center of transformation is always inside the dimensional box c) the center of transformation can be outside the object d) the center of transformation always lies on the surface of the object	5
8.	In which of the printers does printing occur due to the droplets of ink falling from the nozzles onto the paper: a) inkjet b) Laser c) 3D printer d) Matrix	5
9.	What protocols are used on the Internet: a) X.25; b) ISDN c) SDH; d) ATM; e) TCP/IP.	5
10.	The Network Protocol (IP) comes down to standardizing the following procedures: a) Splitting the transmitted data into packets (parts); b) Addressing of packets and their transmission along certain routes to the destination; c) Assembly of packages in the form of initial data. d) Data transfer; e) Addressing.	5

11.	What is the transitive closure of any binary relation? a) transitive binary relation; b) binary relation; c) a reflective binary relation.	**5**
12.	Under what mode of organizing the main memory is the address space of the program divided into segments, inside the segments - into pages, and inside the pages - into byte addresses: a) segmental b) Dynamic c) Segment-page d) Static e) Overlay f) Reentrant	**5**
13.	In expert systems based on the theory of fuzzy sets, a special class of variables is used, which are called: a) Expert variables. b) Controlled variables. c) Random variables. d) Linguistic variables.	**5**
14.	Which method is applicable to the traveling salesman problem? a) branches and boundaries; b) average ratio; c) middle border.	**5**
15.	How many levels does The Open Systems Interconnection model contain: a) 5; b) 6; at 7; d) 9; e) 10.	**5**