

NATIONAL AVIATION UNIVERSITY
EDUCATIONAL & RESEARCH INSTITUTE
OF AERONAVIGATION, ELECTRONICS AND TELECOMMUNICATIONS
Department of Electronics

“Approved”
Head of the department

Dr. of Sci., prof. Yanovsky F.J.
“ ” _____ 2018

Discipline: “Neurocomputer systems of diagnostics”

Test questions on the module №2

1. Lowering of dimension of data, clusterization.
2. A neuron as an indicator.
3. Rule of Hebb.
4. Networks of radial base.
5. Layer of Grossberg.
6. Choice of initial weights in NN.
7. Compression of data with neuronetworks.
8. Properties of neuronetworks of Hopfield are at the different algorithms of studies.
9. Elements of neuronetworks are from the point of view of hardware representation.
10. Prospects of development of neuronetwork technologies.
11. Element base of neurocalculators.
12. Analysis and comparative descriptions of neurochips.
13. Radial Basis Functions
14. Probabilistic Neural Networks
15. NN Predictive Control
16. NARMA-L2 (Feedback Linearization) Control
17. Model Reference Control
18. Dynamic Networks
19. Focused Time-Delay Neural Network (newfftd)
20. Distributed Time-Delay Neural Network (newtdnn)
21. NARX Network (newnarx, newnarxsp, sp2narx)
22. Layer-Recurrent Network (newlrn)
23. Linear System Design (newlind)
24. Linear Networks with Delays
25. LMS Algorithm (learnwh)
26. Linear Classification (train)
27. Neuron Model and Network Architectures
28. Elman Networks
29. Custom neural network
30. Competitive layer
31. Cascade-forward backpropagation network
32. Distributed time delay neural network
33. Elman backpropagation network
34. Feedforward backpropagation network
35. Feedforward input-delay backpropagation network
36. Generalized regression neural network
37. Hopfield recurrent network

38. Layered-recurrent network
39. Learning vector quantization network
40. Feedforward backpropagation network with feedback from output to input
41. NARX network in series-parallel arrangement
42. Probabilistic neural network
43. Radial basis network
44. Exact radial basis network
45. Self-organizing map
46. Convert series-parallel NARX network to parallel (feedback) form
47. Batch training with weight and bias learning rule
48. BFGS quasi-Newton backpropagation
49. BFGS quasi-Newton backpropagation for use with NN model reference adaptive controller
50. Bayesian regularization
51. Cyclical order incremental update
52. Powell-Beale conjugate gradient backpropagation
53. Fletcher-Powell conjugate gradient backpropagation
54. Polak-Ribiere conjugate gradient backpropagation
55. Gradient descent backpropagation
56. Gradient descent with adaptive learning rule backpropagation
57. Gradient descent with momentum backpropagation
58. Gradient descent with momentum and adaptive learning rule backpropagation
59. Levenberg-Marquardt backpropagation
60. One step secant backpropagation
61. Random order incremental training with learning functions
62. Resilient backpropagation (Rprop)
63. Sequential order incremental training with learning functions
64. Scaled conjugate gradient backpropagation

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