



## BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science in Information Technology

Course Name – Artificial Neural Network

Course Code - BAIC401

( Semester IV )

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

### Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) What are the issues on which biological networks proves to be superior than AI networks?
 

a) Robustness & fault tolerance	b) Collective computation
c) Flexibility	d) All of these
- (2) The fundamental unit of network is which of the following?
 

a) Brain	b) Nucleus
c) Neuron	d) Axon
- (3) What are dendrites?
 

a) Fibers of nerves	b) Nuclear projections
c) Other name for nucleus	d) None of these
- (4) Signal transmission at synapse is a?
 

a) Physical process	b) Chemical process
c) Physical & chemical both	d) None of these
- (5) Where does the chemical reactions take place in neuron?
 

a) Dendrites	b) Axon
c) Synapses	d) Nucleus
- (6) What is the purpose of Axon?
 

a) Receptors	b) Transmitter
c) Transmission	d) None of these
- (7) What's the main point of difference between human & machine intelligence?
 

a) Human perceive everything as a pattern while machine perceive it merely as data	b) Human have emotions
c) Human have more IQ & intellect	d) Human have sense organs
- (8) Why do we need biological neural networks?

- a) To solve tasks like machine vision & natural language processing  
 b) To apply heuristic search methods to find solutions of problem  
 c) To make smart human interactive & user friendly system  
 d) All of these
- (9) What is unsupervised learning?  
 a) Features of group explicitly stated  
 b) Number of groups may be known  
 c) Neither feature & nor number of groups is known  
 d) None of these
- (10) Example of a unsupervised feature map?  
 a) Text recognition  
 b) Voice recognition  
 c) Image recognition  
 d) None of these
- (11) Operations in the neural networks can perform what kind of operations?  
 a) Serial  
 b) Parallel  
 c) Serial or parallel  
 d) None of these
- (12) Which action is faster pattern classification or adjustment of weights in neural nets?  
 a) Pattern classification  
 b) Adjustment of weights  
 c) Equal  
 d) Either of them can be fast, depending on conditions
- (13) What is the feature of ANNs due to which they can deal with noisy, fuzzy, inconsistent data?  
 a) Associative nature of networks  
 b) Distributive nature of networks  
 c) Both associative & distributive  
 d) None of these
- (14) What was the name of the first model which can perform weighted sum of inputs?  
 a) McCulloch-pitts neuron model  
 b) Marvin Minsky neuron model  
 c) Hopfield model of neuron  
 d) None of these
- (15) Who developed the first learning machine in which connection strengths could be adapted automatically?  
 a) McCulloch-pitts  
 b) Marvin Minsky  
 c) Hopfield  
 d) None of these
- (16) Who proposed the first perceptron model in 1958?  
 a) McCulloch-pitts  
 b) Marvin Minsky  
 c) Hopfield  
 d) Rosenblatt
- (17) John hopfield was credited for what important aspect of neuron?  
 a) Learning algorithms  
 b) Adaptive signal processing  
 c) Energy analysis  
 d) None of these
- (18) What is ART in neural networks?  
 a) Automatic Resonance Theory  
 b) Artificial Resonance Theory  
 c) Adaptive Resonance Theory  
 d) None of these
- (19) What is an activation value?  
 a) Weighted sum of inputs  
 b) Threshold value  
 c) Main input to neuron  
 d) None of these
- (20) Positive sign of weight indicates?  
 a) Excitatory input  
 b) Inhibitory input  
 c) Can be either excitatory or inhibitory as such  
 d) None of these
- (21) What is asynchronous update in neural networks?  
 a) Output units are updated sequentially  
 b) Output units are updated in parallel fashion



- a) LMS error learning law  
c) All of these
- b) Gradient descent algorithm  
d) None of these
- (35) In neural how can connectons between different layers be achieved?  
a) Interlayer  
c) Both interlayer and intralayer
- b) Intralayer  
d) Either interlayer or intralayer
- (36) On what parameters can change in weight vector depend?  
a) Learning rate  
c) Loss function
- b) Input vector  
d) All of these
- (37) Different learning methods does not include?  
a) Introduction  
c) Deduction
- b) Analogy  
d) Memorization
- (38) The model will be trained with data in one single batch is known as?  
a) Batch learning  
c) All of these
- b) Offline learning  
d) None of these
- (39) In Model based learning methods, an iterative process takes place on the ML models that are built based on various model parameters, called?  
a) Mini-batches  
c) Hyper-parameters
- b) Optimized-parameters  
d) Super-parameters
- (40) How do you handle missing or corrupted data in a dataset?  
a) Drop missing rows or columns  
c) Assign a unique category to missing values
- b) Replace missing values with mean/median/mode  
d) All of these
- (41) Synaptic dynamics is referred as?  
a) Short term memory  
c) Either short or long term
- b) Long term memory  
d) Both short & long term
- (42) What is classification?  
a) Deciding what features to use in a pattern recognition problem  
c) Deciding what type of neural network to use
- b) Deciding what class an input pattern belongs to  
d) None of these
- (43) What is generalization?  
a) The ability of a pattern recognition system to approximate the desired output values for pattern vectors which are not in the test set.  
c) Can be either way
- b) The ability of a pattern recognition system to approximate the desired output values for pattern vectors which are not in the training set.  
d) None of these
- (44) What are models in neural networks?  
a) Mathematical representation of our understanding  
c) Both way
- b) Representation of biological neural networks  
d) None of these
- (45) What kind of dynamics leads to learning laws?  
a) Synaptic  
c) Activation
- b) Neural  
d) Both synaptic & neural
- (46) Changing inputs affects what kind of dynamics directly?  
a) Synaptic  
c) Activation
- b) Neural  
d) Both synaptic & neural
- (47) Activation value is associated with?

- a) Potential at synapses  
c) All of the mentioned
- b) Cell membrane potential  
d) None of these
- (48) What's the actual reason behind the boundedness of the output function in activation dynamics?
- a) Limited neural fluid  
c) Both limited neural fluid & fan in capacity
- b) Limited fan in capacity of inputs  
d) None of these
- (49) Overfitting is a type of modelling error which results in the failure to predict future observations effectively or fit additional data in the existing model. Yes/No?
- a) Yes  
c) May be
- b) No  
d) Can't say
- (50) Which is used as an input to the machine learning model for training and prediction purposes?
- a) Feature  
c) All of these
- b) Feature Vector  
d) None of these
- (51) What is global stability?
- a) When both synaptic & activation dynamics are simultaneously used & are in equilibrium  
c) When only synaptic dynamics in equilibrium
- b) When only synaptic & activation dynamics are used  
d) None of these
- (52) Which models belongs to main subcategory of activation models?
- a) Additive & subtractive activation models  
c) Subtractive & shunting activation models
- b) Additive & shunting activation models  
d) All of these
- (53) Who proposed the shunting activation model?
- a) Rosenblatt  
c) Perkel
- b) Hopfield  
d) Grossberg
- (54) What was the goal of shunting activation model?
- a) To make system dynamic  
c) To make system static
- b) To keep operating range of activation value to a specified range  
d) Can be either for dynamic or static, depending on inputs
- (55) Activation models are?
- a) Dynamic  
c) Deterministic
- b) Static  
d) None of these
- (56) What is equilibrium in neural systems?
- a) Deviation in present state, when small perturbations occur  
c) Change in state, when small perturbations occur
- b) Settlement of network, when small perturbations occur  
d) None of these
- (57) What is asynchronous update in a network?
- a) Update to all units is done at the same time  
c) Change in state of any number of units drive the whole network
- b) Change in state of any one unit drive the whole network  
d) None of these
- (58) Learning is a?
- a) Slow process  
c) Can be slow or fast in general
- b) Fast process  
d) Can't say
- (59) What are the requirements of learning laws?
- a) Convergence of weights
- b) Learning time should be as small as possible

c) Learning should use only local weights

d) All of these

(60) Memory decay affects what kind of memory?

a) Short tem memory in general

b) Older memory in general

c) Can be short term or older

d) None of these